

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL
RAILROAD AND FINANCIAL NEWSPAPER.

RELATIVE GROWTH OF COTTON MANUFACTURING.

The ending of the cotton-crop year makes it possible to compare the relative growth of cotton manufacturing in the South and in New England. From the official report of the New Orleans Cotton Exchange the Manufacturers' Record has compiled the following figures:

Years Ending Aug. 31.	Purchases of Cotton	
	By Southern Mills.	By Northern Mills.
1896.....	904,701	1,600,271
1895.....	862,838	2,083,839
1894.....	718,513	1,601,173
1893.....	743,348	1,687,286
1892.....	686,080	2,190,766
1891.....	604,661	2,027,362
1890.....	546,894	1,799,258

The growth of this industry in the South is strikingly emphasized by these figures.

THE FULL TABLE OF CONTENTS WILL BE FOUND ON PAGE 119.

\$4.00 per year.
Single Copy
10 Cents.

VOL. XXX.
No. 7.

Baltimore, September 11, 1896.



THE MILNER & KETTIG CO.

**AUTOMATIC
SPRINGER WORK
A SPECIALTY.**

**Machinery, Manufacturers,
Mining and Plumbers' Supplies.**

PRICES GUARANTEED AS LOW AS ANY RESPONSIBLE MANUFACTURER OR JOBBER IN THE UNITED STATES.

Write for Catalogue and Prices.

BIRMINGHAM, ALA., U. S. A.

THE MARION STEAM SHOVEL CO.

801 WEST CENTRE STREET
MARION, OHIO.



Barnhart's Steam Shovels, Dredges, Ditching Dredges, Railroad Ditchers, Wreckers, etc. Our Steam Shovels are largely used on Railroads and by Contractors, Brick Manufacturers, and in excavating iron ore, handling stock ore, stripping coal fields and stone quarries, and are a most desirable machine for any use where excavating machinery can be used. All of our machines guaranteed to give entire satisfaction; otherwise may be returned at our expense. For illustrated Catalogue, Photographs, and any other information desired, address the

Marion Steam Shovel Co.

801 West Centre Street,

Marion, Ohio.



Barnhart's Ballast Unloader. The center rib or leader is machine.



Cantilever Cranes on the Chicago Drainage Canal. Capacity 500 to 700 cubic yards solid rock per day.

The Brown Hoisting & Conveying Machine Co.

New York Office, Havemeyer Building.

CLEVELAND, OHIO, U. S. A.

Pittsburgh Office, Carnegie Building.

General Western Office, Marquette Building, CHICAGO, ILL.

MACHINERY FOR HANDLING COAL, ORE AND OTHER MATERIAL.

TRAVELING, LOCOMOTIVE, JIB, PILLAR AND CANTILEVER CRANES.

Operated by steam, electricity and hand power.

THE BEST MACHINERY FOR HANDLING MATERIAL IN SHIP-BUILDING YARDS.

Such as MARINE PLATES, ARMOR PLATES, STRUCTURAL WORK, Etc.

Friction Clutch Hoisting Engines, Boilers, Skip Cars, Self-Dumping Buckets, Friction Clutches, etc.

Conveying, Elevating and Power-Transmitting Machinery

H. W. CALDWELL & SON CO.

**SPECIALTIES FOR COTTONSEED-OIL MILLS,
FLOUR AND RICE MILLS,
AND GRAIN ELEVATORS.**

GENERAL MACHINISTS,

127, 129, 131, 133 West Washington St.

CHICAGO.

CALDWELL

STEEL CONVEYOR.

Manufactured exclusively by us at Chicago, with latest improvements.



CALDWELL CORRUGATED SEAMLESS
STEEL ELEVATOR BUCKETS.

LINK BELTING.
SPROCKET WHEELS.
COTTON BELTING.
RUBBER BELTING.
LEATHER BELTING.
BELT CLAMPS.
POWER GRAIN SHOVELS.
ELEVATOR BOLTS.
ELEVATOR BUCKETS.
CONCRETE MIXERS.

FRICTION CLUTCHES.
JAW CLUTCHES.
COUPLINGS.
FLEXIBLE SPOUTS.
GEARING (all kinds).
GRAIN SCOOPS.
ELEVATOR BOOTS.
COGSWELL MILLS.
HANGERS.
PERFORATED METALS.

PILLOW BLOCKS.
IRON PULLEYS.
WOOD PULLEYS.
SHAFTING.
SET COLLARS.
SWIVEL SPOUTS.
TAKE-UP BOXES.
TURN HEAD SPOUTS.
WIRE CLOTH.



MANUFACTURERS

Wire Brushes, Bristle Brushes,
Iron, Brass and Steel Riddles,
Bellevue, Sifting Machines,
Chaplets, tinned and plain,
Moulders' Cast Steel Shovels,
Geared and Hand Ladles in Stock.

ASK FOR
ANY
SUPPLIES
YOU
WANT.

FOUNDRIY EQUIPMENTS.

(A FEW BRANDS OF FACING.)



Finest Stove-Plate Facings.

FIRE-PROOF and RETURN FACING.

CHARCOAL, SOAPSTONE, ANTHRACITE, PLUMBAGO
SEACCOAL and MACHINE.

J. W. PAXSON & CO.

1021 N. Delaware Avenue,

PHILADELPHIA, PA.

CO.

ATRS.

T. S. A.

STREET,
OHIO,

elars, B...
A, Brick Man...
Stone Quarry



nder is requir

Co.

ernegie Bui

CRANES,
and hand power
G YARDS.

n, etc.

ry

n St.

FACING.

E, PLUMBAGE

& CO.

ous,

PHIA, PA

CLASSIFIED INDEX OF ADVERTISERS.

FOR "ALPHABETICAL INDEX" SEE PAGE 120.

Acid Chambers.

Caroline Iron Works, Baltimore, Md.
Valk & Murdoch Iron Wks., Charleston, S.C.

Agricultural Implements.

J. F. Wetherill Machine Co., Chester, Pa.
Hench & Dromgold, York, Pa.

Air Compressors.

American Well Works, Aurora, Ill.
Battle Creek St. Pump Co., Battle Ck., Mich.
Knowles St. Pump Wks., New York, N. Y.
Ingersoll-Sergeant Drill Co., New York, N. Y.
Rand Drill Co., New York, N. Y.
Sullivan Machinery Co., Chicago, Ill.
Philadelphia Eng. Wks., Ltd., Phila., Pa.

Anti-Friction Metals.

Damascus Bronze Co., Pittsburg, Pa.
Whitney & Sloo Co., Ltd., New Orleans, La.
Southern Log Cart & Sup. Co., Mobile, Ala.
Bailey-Lebby Co., Charleston, S. C.

Architects.

N. N. Wasiekar & Co., Atlanta, Ga.
Nat. G. Scott, New Orleans, La.
Hales & Ballinger, Philadelphia, Pa.
A. L. Melton, Asheville, N. C.
James Stewart & Co., St. Louis, Mo.
C. R. Makepeace & Co., Providence, R. I.

Architectural Iron Work.

Lombard Iron Wks. & Sup. Co., Augusta, Ga.
Gillette-Herzog Mfg. Co., New Orleans, La.
West Va. Bridge Wks., Charles Town, W. Va.
Clark Found. & Mach. Co., Knoxville, Tenn.
T. H. Prooks & Co., Cleveland, O.

Artesian Well Tools and Supplies.

[See Well Tools and Supplies.]

Asphalt.

Warren Chem. & Mfg. Co., New York, N. Y.

Asphalt Pavements.

Barber Asphalt Paving Co., New York, N. Y.

Babbitt Metal. [See Anti-Friction Metal.]**Bags, Rope and Twine.**

John T. Bailey & Co., Philadelphia, Pa.

Bankers and Brokers.

U. S. Fidelity & Guar. Co., Baltimore, Md.
Sperry, Jones & Co., Baltimore, Md.
Amer. Bonding & Trust Co., Baltimore, Md.
Maryland Trust Co., Baltimore, Md.
Clapp & Co., Mills Bldg., New York, N. Y.
Exchange Bkg. & Trust Co., Charleston, S. C.
John L. Williams & Sons, Richmond, Va.
Middendorf, Oliver & Co., Baltimore, Md.

Barrel Mch'y. [See Woodworking Mch'y.]

E. & B. Holmes Mach'y Co., Buffalo, N. Y.

Bath Tubs.

R. M. Wilson, Rome, N. Y.

Bearings.

N. Amer. Metal. Co., Long Island City, N. Y.

Belting.

Whitney & Sloo Co., Ltd., New Orleans, La.
Chesapeake Belting Co., Baltimore, Md.
Jewell Belting Co., Hartford, Conn.
Chas. Munson Belting Co., Chicago, Ill.
I. B. Williams & Sons, Dover, N. H.
Akron Belting Co., Akron, O.
Lombard Iron Wks. & Sup. Co., Augusta, Ga.
N. J. Car Spring & Rub. Co., Jersey City, N. J.
Chas. A. Schieren & Co., New York, N. Y.
Boston Belting Co., Boston, Mass.
E. M. Freese & Co., Gallon, O.
Cameron & Barkley Co., Charleston, S. C.
Main Belting Co., Philadelphia, Pa.
Gandy Belting Co., Baltimore, Md.
Schultz Belting Co., St. Louis, Mo.
H. W. Caldwell & Son Co., Chicago, Ill.
American Supply Co., Providence, R. I.

Belting. (Chain.)

Roberts Steel Chain Belt Co., Pittsburg, Pa.
H. W. Caldwell & Son Co., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Eng'g Co., Nicetown (Phila.), Pa.

Belt Lacing.

American Supply Co., Providence, R. I.
Shultz Belting Co., St. Louis, Mo.

Belt Preserver.

Shultz Belting Co., St. Louis, Mo.
Chas. Munson Belting Co., Chicago, Ill.
Akron Belting Co., Akron, O.

Bicycles.

Whitney & Sloo Co., Ltd., New Orleans, La.
Maryland Mfg. & Cons. Co., Baltimore, Md.
Black Mfg. Co., Erie, Pa.
Eisenbrandt Cycle Co., Baltimore, Md.

Blinds.

Willer Mfg. Co., Milwaukee, Wis.

Blower. (Argand Steam.)

McClave, Brooks & Co., Scranton, Pa.

Blowers and Exhaust Fans.

B. F. Sturtevant Co., Boston, Mass.
Buffalo Forge Co., Buffalo, N. Y.
Force & Briggs, Pittsburg, Pa.

Boiler Appliances.

Reliance Gauge Co., Cleveland, O.

Boiler Fronts and Fittings. [See Boilers.]**Boilers.** [See Machinery.]

Keystone Engine and Mch. Wks., Phila., Pa.
Joseph R. Wilson (Climax), Philadelphia, Pa.
W. Seabury Simmons, New York, N. Y.
Helm Safety Boiler Co., St. Louis, Mo.
Crews & Westbrook, Danville, Va.
Enterprise Boiler Co., Youngstown, O.
R. M. Wilson, Rome, N. Y.
Ames Iron Works, Oswego, N. Y.
Birmingham Boiler Wks., Birmingham, Ala.
Caball Sales Department, Pittsburg, Pa.
Paragon Mfg. & Mch. Works, Chicago, Ill.
American Well Works, Aurora, Ill.
Struthers, Wells & Co., Warren, Pa.

The Vulcan Works, Chester, Pa.
George M. Clapp, New York, N. Y.
Hogan Boiler Co., Middletown, N. Y.
Davis-Farrar Co., Erie, Pa.
E. Keeler Co., Williamsport, Pa.
Campbell & Zell Co., Baltimore, Md.
Maryland Steel Co., Sparrow's Point, Md.
Lombard Iron Wks. & Sup. Co., Augusta, Ga.
James Leffel & Co., Springfield, O.
Pittsburg Locomotive Works, Pittsburg, Pa.
Nye & Tredick, Philadelphia, Pa.
Smith-Courtney Co., Richmond, Va.
The Bailey-Lebby Co., Charleston, S. C.
Davis Foundry & Machine Wks., Rome, Ga.
Union Iron Works Co., Selma, Ala.
Charlotte Machine Co., Charlotte, N. C.
Mecklenburg Iron Works, Charlotte, N. C.
S. C. Forsyth Mch. Co., Manchester, N. H.
Cameron & Barkley Co., Charleston, S. C.
Rabcock & Wilcox Co., New York, N. Y.
Tudor Boiler Mfg. Co., Cincinnati, O.
Valk & Murdoch Iron Wks., Charleston, S. C.
Frick Co., Waynesboro, Pa.
Maryland Mfg. & Cons. Co., Baltimore, Md.

Bolts, Rivets and Nuts.

Philadelphia Mch. Screw Wks., Phila., Pa.
Hoopes & Townsend, Philadelphia, Pa.

Bond Insurance.

American Bond & Trust Co., Baltimore, Md.
U. S. Fidelity & Guar. Co., Baltimore, Md.

Box Nailers.

Wm. S. Dolg, Brooklyn, N. Y.

Brass Goods.

The Lunkenheimer Co., Cincinnati, O.
Chas. H. Besly & Co., Chicago, Ill.
Bailey-Lebby Co., Charleston, S. C.
Ahrens & Ott Mfg. Co., Louisville, Ky.
Buckeye Iron & Brass Works, Dayton, O.

Brick.

The Powhatan Clay Mfg. Co., Richmond, Va.

Brick. (Pressed Steel.)

Canton Steel Roofing Co., Canton, O.

Brick and Clayworking Machinery and Supplies.

Henry Martin Brick Mch. Co., Lancaster, Pa.
George Carnell, Philadelphia, Pa.
E. M. Freese & Son, Gallon, O.

Bridges.

Gillette-Herzog Mfg. Co., New Orleans, La.
West Va. Bridge Wks., Charles Town, W. Va.

Burlaps.

John T. Bailey & Co., Philadelphia, Pa.

Canmakers' Machinery.

Stevenson & Co., Baltimore, Md.
Maryland Mfg. & Cons. Co., Baltimore, Md.

Canning Machinery.

Niagara Stamping & Tool Co., Buffalo, N. Y.
A. K. Robbins, Baltimore, Md.

Capstans. (Hand and Steam.)

American Ship Windlass Co., Providence, R. I.

Card Clothing.

American Supply Co., Providence, R. I.

Cars. (Mine and Dump.)

Climax Mfg. Co., Corry, Pa.
Birmingham Boiler Wks., Birmingham, Ala.
Geo. Peacock, Selma, Ala.

Cars. (Passenger and Freight.) [See Railroad Equipment and Supplies.]**Cars.** (Tank.)

F. M. Pense, Chicago, Ill.
Murray, Douglas & Co., Ltd., Milton, Pa.

Car-Couplers.

Chester Steel Castings Co., Philadelphia, Pa.

Car Springs.

N. J. Car Spring & Rub. Co., Jersey City, N. J.
Boston Belting Co., Boston, Mass.

Car Trucks.

Dorner & Dutton Mfg. Co., Cleveland, O.

Car Wheels and Axles.

George Peacock, Selma, Ala.
Dorner & Dutton Mfg. Co., Cleveland, O.

Castings. (Brass and Bronze.)

The Lunkenheimer Co., Cincinnati, O.
Newburgh Ice Machine & Engine Co., Newburgh, N. Y.
The Vulcan Works, Chester, Pa.
Maryland Steel Co., Sparrow's Point, Md.

Castings. (Iron.)

Rippel Mfg. Co., Mt. Gilead, O.
Adams & Price L. & M. Wks., Nashville, Tenn.
Southern Log Cart & Sup'y Co., Mobile, Ala.
R. D. Wood & Co., Philadelphia, Pa.
Clark Fdy. & Mch. Co., Knoxville, Tenn.
Newburgh Ice Machine & Engine Co., Newburgh, N. Y.
The Vulcan Works, Chester, Pa.
Maryland Steel Co., Sparrow's Point, Md.
Chattanooga Fdy. & P. Wks., Chatt., Tenn.
McLanahan & Stone, Hollidaysburg, Pa.

Castings. (Malleable Iron and Steel.)

Bethlehem Iron Wks., South Bethlehem, Pa.
Maryland Steel Co., Sparrow's Point, Md.
Chrome Steel Works, Brooklyn, N. Y.
Chester Steel Castings Co., Chester, Pa.

Ceilings.

Cincinnati Corrugating Co., Piqua, Ohio.
Canton Steel Roofing Co., Canton, O.
Gara, McGinley & Co., Philadelphia, Pa.
A. Northrop & Co., Pittsburg, Pa.

Cells. (Jail.)

The Pauly Jail Bldg. & Mfg. Co., St. Louis, Mo.

Cement.

Southeastern Lime & C. Co., Charleston, S. C.
The Lawrence Cement Co., New York, N. Y.
South Eastern Plaster Co., Savannah, Ga.
Wm. M. Bird & Co., Charleston, S. C.
Commercial Wood & Cement Co., Phila., Pa.
C. M. Gilbert & Co., Savannah, Ga.
Ridgmont Cement Mfg. Co., Norfolk, Va.

Chains.

Roberts Steel Chain Belt Co., Pittsburg, Pa.

Chemists.

Guld & White, Chattanooga, Tenn.
N. F. Pratt Laboratory, Atlanta, Ga.
Dr. Henry Froehling, Richmond, Va.
John Sanderson, Middlesborough, Ky.

Chucks.

Skinner Chuck Co., New Britain, Conn.
Chas. H. Besly & Co., Chicago, Ill.

Clamps.

Chas. H. Besly & Co., Chicago, Ill.

Clocks. (Watchman's and Town.)

E. O. Hausburg, New York, N. Y.
Chas. H. Besly & Co., Chicago, Ill.

Clutches. (Friction.)

A. & F. Brown, New York, N. Y.
Falls Rivet & Mch. Co., Cuyahoga Falls, O.
Taper-Sleeve Pulley Works, Erie, Pa.

Coal.

Davis Coal & Coke Co., Philadelphia, Pa.
Castner & Curran, Philadelphia, Pa.

Cold Sawing Machines.

Q. & C. Co., Chicago, Ill.

Coke.

Davis Coal & Coke Co., Philadelphia, Pa.
Howard-Harrison Iron Co., Bessemer, Ala.

Contractors. (Railway.)

Martinez & Maddas, Philadelphia, Pa.
Nat. G. Scott, New Orleans, La.
Chas. McFadden, Jr., Philadelphia, Pa.
Smethurst & Allen, Philadelphia, Pa.

Contractors and Builders.

Consolidated Eng. Co., New Orleans, La.
Nat. G. Scott, New Orleans, La.
Grandy Bros. & Co., Spartanburg, S. C.
Stewart Contracting Co., Columbia, S. C.
E. F. Dodson & Co., Atlanta, Ga.
Wm. A. Chapman & Co., Providence, R. I.
D. A. Garber, Washington, D. C., and Brunswick, Ga.
James Stewart & Co., St. Louis, Mo.

Contractors and Builders' Supplies.

Perkins Mfg. Co., Augusta, Ga.
Wrightsville Hardware Co., Wrights'v'e, Pa.
O'Neill Mfg. Co., Rome, Ga.
Sam'l H. French & Co., Philadelphia, Pa.

Contractors' Machinery and Supplies. [See Hoisting Machinery.]

W. A. Crook & Bros. Co., Newark, N. J.
Contractors' Plant Mfg. Co., Buffalo, N. Y.
George Peacock, Selma, Ala.
Kilbourne & Jacobs Mfg. Co., Columbus, Ohio.
Marion Steam Shovel Co., Marion, Ohio.

Contractors' Supplies. (Street.)

Kansas City Wheel Scraper Co., Kansas City, Mo.

Conveying Machinery.

Roberts Steel Chain Belt Co., Pittsburg, Pa.
Brown Hoist & Con. Mch. Co., Cleveland, Ohio.
W. J. Clark Co., Salem, Ohio.
Walker & Elliott, Wilmington, Del.
H. W. Caldwell & Son Co., Chicago, Ill.
McLanahan & Stone, Hollidaysburg, Pa.
The Jeffrey Mfg. Co., Columbus, Ohio.
Link-Belt Eng'g Co., Nicetown (Phila.), Pa.

Coppersmiths.

Birmingham Boiler Works, Birmingham, Ala.

Corn Mill Machinery.

Nordyke & Marmon Co., Indianapolis, Ind.
Paragon Mill & Mch. Works, Chicago, Ill.
Sprout, Waldron & Co., Muncy, Pa.
B. F. Starr & Co., Baltimore, Md.
Sturtevant Mill Co., Boston, Mass.

Cornices. (Copper and Galvanized Iron.)

Gara, McGinley & Co., Philadelphia, Pa.
N. Orleans Rfg. & Met. Wks., N. Orleans, La.

Corrugated Iron. [See Roofing and Siding.]**Cotton Compresses.**

The Vulcan Works, Chester, Pa.

Cotton Hose.

N. J. Car Spring & Rub. Co., Jersey City, N. J.
Boston Belting Co., Boston, Mass.

Cotton Gin Machinery.

E. Van Winkle Gin & Mch. Wks., Atlanta, Ga.
Carver Cot. Gin Co., E. Bridgewater, Mass.
Valk & Murdoch Iron Wks., Charleston, S. C.

Cotton Mill Mch'y. [See Textile Mch'y.]

D. A. Tompkins Co., Charlotte, N. C.
J. P. Wetherill Machine Co., Chester, Pa.
Geo. W. Payne & Co., Pawtucket, R. I.
Jeremiah Clark, Lowell, Mass.
Foster Machine Co., Westfield, Mass.
Cohoes Iron Fdy. & Mch. Co., Cohoes, N. Y.
Curtis & Marble, Worcester, Mass.
Mason Machine Works, Taunton, Mass.
Charlotte Machine Co., Charlotte, N. C.
Kilburn, Lincoln & Co., Fall River, Mass.
Lowell Machine Shop, Boston, Mass.
Nye & Tredick, Philadelphia, Pa.
American Supply Co., Providence, R. I.
Crompton Loom Works, Worcester, Mass.
George Draper & Sons, Hopedale, Mass.
Whitinsville Spin. Ring Co., Whitinsville, Mass.
Petite Mch. Wks., Newton Upper Falls, Mass.
Providence Machine Co., Providence, R. I.
Knowles Loom Works, Worcester, Mass.
Easton & Burnham Mch. Co., Pawtucket, R. I.

Cottonseed-Oil Machinery.

J. P. Wetherill Machine Co., Chester, Pa.
G. H. Bushnell Press Co., Thompson's Conn.
E. Van Winkle Gin & Mch. Wks., Atlanta, Ga.
Sturtevant Mill Co., Boston, Mass.
Stillwell-Bierce & Brass Works, Dayton, O.
Buckeye Iron & Brass Works, Dayton, O.
Carver Cot. Gin Co., E. Bridgewater, Mass.
Cardwell Machine Co., Richmond, Va.

Cottonseed Products.

American Cotton Oil Co., New York, N. Y.

Coverers. (Rollers and Clearers.)

American Supply Co., Providence, R. I.

Cranes. (Travelling.)

Brown Hoist & Con. Mch. Co., Cleveland, O.

Cranks shafts.

Bethlehem Iron Wks., South Bethlehem, Pa.
Chester Steel Castings Co., Philadelphia, Pa.

Creosoted Lumber.

Fernandina Oil & Creosot Wks., Fernand., Fla.

Crushers. (Corn and Cob.)

Munson Bros., Utica, N. Y.
The Foss Mfg. Co., Springfield, O.

Crushing and Pulverizing Mch'y.

St. Johnsville Agri. Wks., St. John's, N. Y.
M. F. Williams & Co., St. Louis, Mo.
J. S. & G. F. Simpson, Brooklyn, N. Y.
Clark Fdy. & Mch. Co., Knoxville, Tenn.
Sprout, Waldron & Co., Muncy, Pa.
Sturtevant Mill Co., Boston, Mass.
R. McCully, Philadelphia, Pa.
Foss Mfg. Co., Springfield, Ohio.
Bradley Pulverizer Co., Boston, Mass.
Union Fdy. & Mch. Wks., Rockaway, N. J.
J. R. Alsing Co., Incorp., New York, N. Y.
Walker & Elliott, Wilmington, Del.
James Murray & Son, Baltimore, Md.

Damascus Bronze.

Damascus Bronze Co., Pittsburg, Pa.

Damper Regulators.

Mason Regulator Co., Boston, Mass.

Die Forgings and Castings.

Chrome Steel Works, Brooklyn, N. Y.

Dies for Sheet-Metal Workers.

Chas. H. Besly & Co., Chicago, Ill.

Doors. (Fire-proof.)

Canton Steel Roofing Co., Canton, O.

Dredges and Excavators.

Maryland Steel Co., Sparrow's Point, Md.
Marion Steam Shovel Co., Marion, Ohio.

Drills. (Prospecting.)

Sullivan Machinery Co., Chicago, Ill.

Drills. (Rock.)

Sullivan Machinery Co., Chicago, Ill.
Rand Drill Co., New York, N. Y.
Ingersoll-Sergeant Drill Co., New York, N. Y.

Drills. (Twist.)

Standard Tool Co., Cleveland, Ohio.

Drilling Machines.

W. F. & Jno. Barnes Co., Rockford, Ill.
Draper Mch. Tool Co., Worcester, Mass.
Stow Mfg. Co., Binghamton, N. Y.
Stow Flexible Shaft Co., Ltd., Phila., Pa.
Pennsylvania Mch. Co., Ltd., Phila., Pa.

Dry-Kilns.

The Emerson Co., Baltimore, Md.
Sturtevant Mill Co., Boston, Mass.

Drying Machinery.

The Bailey-Lebby Co., Charleston, S. C.

Ejectors.

Henry B. Paucoast & Co., Philadelphia, Pa.

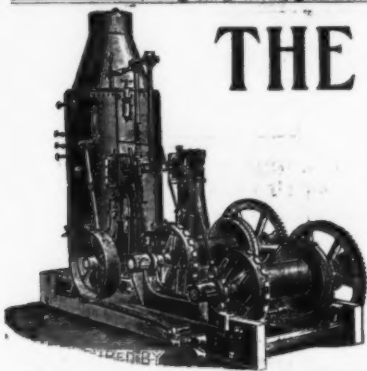
Electric-Light and Power Plants.

Roth Bros. & Co., Chicago, Ill.
Triumph Electric Co., Cincinnati, O.
American Engine Co., Bound Brook, N. J.
Smethurst & Allen, Philadelphia, Pa.
Jenny Elec. Motor Co., Indianapolis, Ind.
General Electric Co., Schenectady, N. Y.
Shawhan-Thresher Electric Co., Dayton, O.
Card Electric Co., Mansfield, O.
Fort Wayne Elec. Corp'n, Fort Wayne, Ind.
Commercial Electric Co., Indianapolis, Ind.
Electric Storage Battery Co., Phila., Pa.
Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.
Maryland Mfg. & Cons. Co., Baltimore, Md.

Electric Railway Equipment.

General Electric Co., Schenectady, N. Y.
Maryland Mfg. & Cons. Co., Baltimore, Md.
Dorner & Dutton Mfg. Co., Cleveland, O.
Electric Storage Battery Co., Phila., Pa.
Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.
Shawhan-Thresher Electric Co., Dayton, O.

Electrical Supplies.



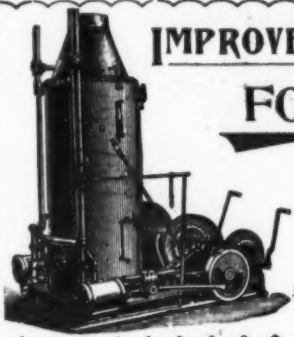
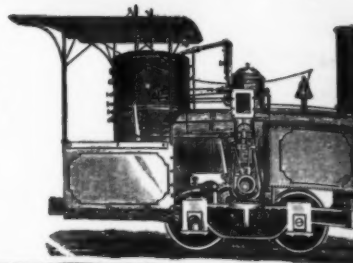
THE JOHN F. BYERS MACHINE COMPANY,

RAVENNA, OHIO.

Manufacturers of

**Hoisting Engines, Geared Locomotives,
Traveling Derrick Cars,
Material Elevators, Hand Powers and Derrick Irons.**

Write for Catalogue D.



IMPROVED HOISTING ENGINES,

FOR

PILE DRIVING, RAILROADS, BRIDGE
BUILDING, MINES, QUARRIES, COAL
HOISTING and BUILDING PURPOSES.

OVER 350 SIZES AND STYLES.

Log Hauling by Steam and Suspension Cableways.

W. A. CROOK & BROS. CO.

117-123 Poinier Street,

NEWARK, N. J.

Salesrooms—143 Liberty St., New York.

WIRE ROPE

FOR ALL PURPOSES:

Wire Rope Tramways; Iron and Steel Wire
OF ALL KINDS.

TRENTON IRON CO., TRENTON, N. J.

New York Office, COOPER, HEWITT & CO., 17 Burling Slip.
Chicago Office, 1114 Monadnock Building.



LIDGERWOOD MFG. CO.

MANUFACTURERS OF IMPROVED

HOISTING ENGINES

For Building Purposes, Excavating and Pile-Driving.

300 styles and sizes and over 12,000 in use.

WAREHOUSES:

Old Colony Bldg., Van Buren and Dearborn Sts., CHICAGO.

96 Liberty Street, NEW YORK.

197 to 203 Congress Street, BOSTON.

40 N. First Street, PORTLAND, OREGON.

610 N. Fourth Street, ST. LOUIS.

21 and 23 Fremont Street, SAN FRANCISCO.

15 N. Seventh Street, PHILADELPHIA.

92 & 94 First Avenue, PITTSBURG.

Sales: Fraser & Chalmers, Salt Lake City, Utah, and Helena, Montana.

Agents: Hewitt & Bolthoff Mfg. Co., Denver.

Contractors' Plant Mfg. Co. Ltd.

MANUFACTURERS OF

STEAM, HORSE and HAND POWER

Hoisting Machines.

DERICK IRON and CONTRACTORS' SUPPLIES.

Manufacturers of Wire Rope.
Mention this journal.

129 Erie Street, Buffalo, N. Y.

EDWARD J. ETTING,

Iron Broker and Commission Merchant,
229 South 3rd St., Philadelphia, Pa.

Storage Yard, Old Navy Yard.

Negotiable Warehouse Receipts Issued.

Agent

Agent

UNION MINING CO. TRENTON IRON CO.

Manufacturers of Wire, Wire Rope, and
"Mount Savage" Fire Brick. Overhead Haulage.

Representing

MATTHEW ADDY & CO., Cincinnati, Ohio,

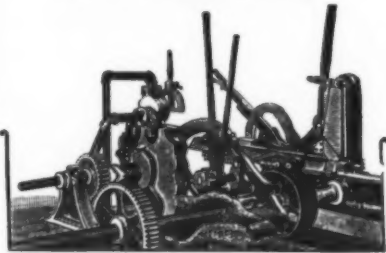
PIC IRON.

IRON and STEEL of every description Bought & Sold

DAKE ENGINE CO.

Manufacturers of

The Dake Stationary
and Hoisting Engines, and
Dake Steam Feeds.



The Dake Engine is especially adapted for
direct attachment to Fans, Blowers, Centrifugal
Pumps, etc.

GRAND HAVEN, MICH.

Chicago Agent:

CHAS. A. ROBINSON, 1564 Monadnock Bldg.

WARS

MINING, LOGGING, PLANTATION, CONTRACTORS'
and SMALL CARS OF ALL KINDS.

Wheels, Axles, Irons, &c.

Send or
Catalogue.

GEO. PEACOCK, Selma, Ala.

NEWPORT NEWS

Shipbuilding and Dry Dock C

WORKS AT NEWPORT NEWS, VA.

(ON HAMPTON ROADS.)

Equipped with a Simpson Basin Dry Dock, capable of docking a vessel 600 feet long, drawing
twenty-five feet of water, at any stage of the tide. Repairs made promptly
and at reasonable rates.

SHIP AND ENGINE BUILDERS.

For estimates and further particulars address

C. B. ORCUTT, President,

No. 1 BROADWAY,

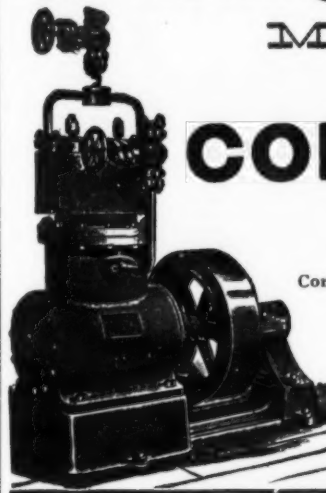
NEW YORK

Ice-Making and Refrigerating MACHINERY.

Horizontal and Vertical

COMPRESSOR

From One to Fifty Tons Capacity.



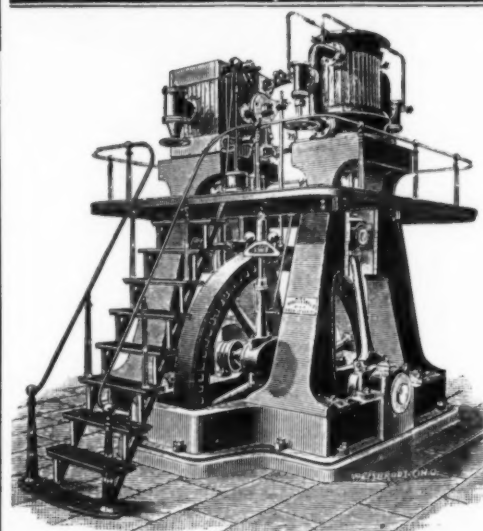
Complete Equipment for Ice-Factories, Breweries, Ab
Packing Houses, Hotels, Creameries, etc.

WRITE FOR ESTIMATES

REMINGTON MACHINE CO., Manufact

WILMINGTON, DEL.

N. C. ROYSTER, Birmingham, Ala., Southern Ag



The Arctic Machine Mfg.

CLEVELAND, OHIO.

Sole
Builders of the

"Arctic"

Ice-Making
Refrigerating
Machines.

Circulars, etc., on application

THE FRED. W. WOLF CO. 139 REES S

CHICAGO,

Builders of
the

LINDE ICE MACHINE

For Ice Factories, Cold Storage Warehouses,
Breweries and Packing Houses.

From 3 to
Tons
Capacity.Over 3500 Machines in
48 countries of the

Something New

We carry a full line of SUPPLIES for Ice and Refrigerating Plants.

Ammonia Fittings,

Anhydrous Ammonia,

Salt for Brine,

Steam and Brine Pipe Covering,

Brine Pumps,

Filters and Filtering Material,

Oils,

Steam and Ammonia Separators,

Gauges and Thermometers,

Packing,

Gaskets,

Ice Cans,

Ice Machine Paints,

Ice Tools,

Derricks,

Cranes,

Ice Dumps,

Boilers and Boiler Access

Insulating Materials,

Oil Cups,

Inspirators, etc., etc.

WRITE FOR COMPLETE CATALOGUE.

S. E. Branch, Equitable Building,

E. E. Eagan, Mgr.,

Atlanta, Ga.

Western Branch,

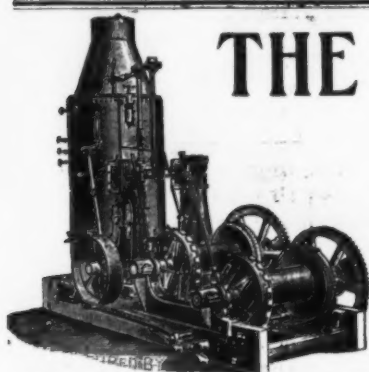
Clot & Meese, 139 Fremont St.,

San Francisco, Cal.

S. W. Branch,

E. P. Maddox,

Ft. Worth,



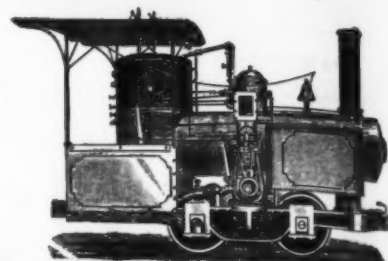
THE JOHN F. BYERS MACHINE COMPANY,

RAVENNA, OHIO.

Manufacturers of

**Hoisting Engines, Geared Locomotives,
Traveling Derrick Cars,
Material Elevators, Hand Powers and Derrick Irons.**

Write for Catalogue D.



IMPROVED HOISTING ENGINES,

FOR

PILE DRIVING, RAILROADS, BRIDGE
BUILDING, MINES, QUARRIES, COAL
HOISTING and BUILDING PURPOSES.

OVER 350 SIZES AND STYLES.

Log Hauling by Steam and Suspension Cableways.

W. A. CROOK & BROS. CO.

117-123 Poinier Street,

NEWARK, N. J.

Salesrooms—143 Liberty St., New York.

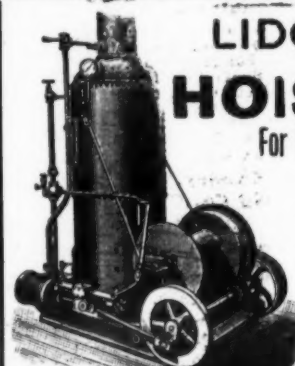
WIRE ROPE

FOR ALL PURPOSES:

Wire Rope Tramways; Iron and Steel Wire
OF ALL KINDS.

TRENTON IRON CO., TRENTON, N. J.

New York Office, COOPER, HEWITT & CO., 17 Burling Slip.
Chicago Office, 1114 Monadnock Building.



LIDGERWOOD MFG. CO.

MANUFACTURERS OF IMPROVED

HOISTING ENGINES

For Building Purposes, Excavating and Pile-Driving.

300 styles and sizes and over 12,000 in use.

WAREHOUSES:

Old Colony Bldg., Van Buren and Dearborn Sts., CHICAGO.

96 Liberty Street, NEW YORK.

197 to 203 Congress Street, BOSTON.

40 N. First Street, PORTLAND, OREGON.

610 N. Fourth Street, ST. LOUIS.

21 and 23 Fremont Street, SAN FRANCISCO.

15 N. Seventh Street, PHILADELPHIA.

92 & 94 First Avenue, PITTSBURG.

Sales: Fraser & Chalmers, Salt Lake City, Utah, and Helena, Montana.

Agents: (Newark & Bolthoff Mfg. Co., Denver.

Contractors' Plant Mfg. Co. Ltd.

MANUFACTURERS OF

STEAM, HORSE and HAND POWER

Hoisting Machines.

DERRICK IRON and CONTRACTORS' SUPPLIES.

Manufacturers of Wire Rope.
Mention this journal.

129 Erie Street. Buffalo, N. Y.

EDWARD J. ETTING,

Iron Broker and Commission Merchant,
229 South 3rd St., Philadelphia, Pa.

Storage Yard, Old Navy Yard.

Negotiable Warehouse Receipts Issued.

Agent

UNION MINING CO.

Agent

TRENTON IRON CO.

Manufacturers of Wire, Wire Rope, and

"Mount Savage" Fire Brick. Overhead Haulage.

Representing

MATTHEW ADDY & CO., Cincinnati, Ohio.

PIG IRON.

IRON and STEEL of every description Bought & Sold

DAKE ENGINE CO.

Manufacturers of

The Dake Stationary
and Hoisting Engines, and
Dake Steam Feeds.



The Dake Engine is especially adapted for
direct attachment to Fans, Blowers, Centrifugal
Pumps, etc. Correspondence solicited.

GRAND HAVEN, MICH.

Chicago Agent:

CHAS. A. ROBINSON, 1364 Monadnock Bldg.

WHEELS

MINING, LOGGING, PLANTATION, CONTRACTORS'
and SMALL CARS OF ALL KINDS.

Wheels, Axles, Irons, &c.
GEO. PEACOCK, Selma, Ala.

Send or
Catalogue.

NEWPORT NEWS

Shipbuilding and Dry Dock Co.

WORKS AT NEWPORT NEWS, VA.

(ON HAMPTON ROADS.)

Equipped with a Simpson Basin Dry Dock, capable of docking a vessel 600 feet long, drawing
twenty-five feet of water, at any stage of the tide. Repairs made promptly
and at reasonable rates.

SHIP AND ENGINE BUILDERS.

For estimates and further particulars address

C. B. ORCUTT, President,

No. 1 BROADWAY,

NEW YORK.

Ice-Making and Refrigerating MACHINERY.

Horizontal and Vertical

COMPRESSORS

From One to Fifty Tons Capacity.

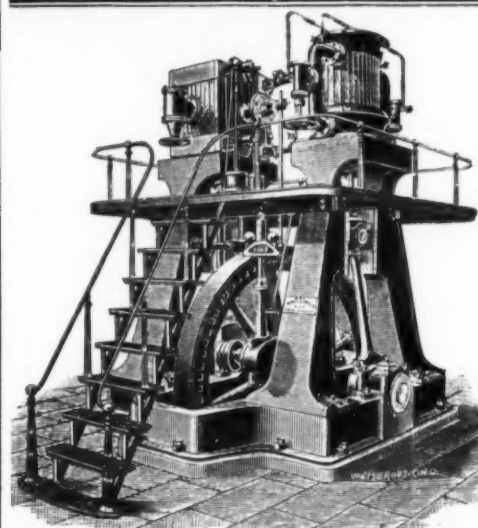
Complete Equipment for Ice-Factories, Breweries, Abattoirs,
Packing Houses, Hotels, Creameries, etc.

WRITE FOR ESTIMATES

REMINGTON MACHINE CO., Manufacturers.

WILMINGTON, DEL.

N. C. ROYSTER, Birmingham, Ala., Southern Agent.



The Arctic Machine Mfg. Co.

CLEVELAND, OHIO.

Sole
Builders of the

"Arctic"

Ice-Making and
Refrigerating
Machines.

Sizes from
1 ton to
75 tons
Capacity.

Circulars, etc., on application.

THE FRED. W. WOLF CO. 139 REES ST. CHICAGO, ILL.

Builders of
the

LINDE ICE MACHINE

For Ice Factories, Cold Storage Warehouses,
Breweries and Packing Houses.

From 3 to 500
Tons
Capacity.

Something New

Over 2500 Machines in use
in 48 countries of the globe.

We carry a full line of SUPPLIES for Ice and Refrigerating Plants.

Ammonia Fittings,
Anhydrous Ammonia,
Salt for Brine,
Steam and Brine Pipe Covering,
Brine Pumps,
Filters and Filtering Material,
Oils,

Steam and Ammonia Separators,
Gauges and Thermometers,
Packing,
Gaskets,
Ice Cans,
Ice Machine Paints,
Ice Tools,

Derricks,
Cranes,
Ice Dumps,
Boilers and Boiler Accessories,
Insulating Materials,
Oil Cups,
Inspirators, etc., etc.

WRITE FOR COMPLETE CATALOGUE.

S. E. Branch, Equitable Building,
E. E. Eagan, Mgr.,
Atlanta, Ga.

Western Branch,
Clot & Meese, 129 Fremont St.,
San Francisco, Cal.

S. W. Branch,
E. F. Maddox, Mgr.,
Ft. Worth, Tex.

Engl
Valley
Paragon
Americ
Keyston
Americ
J. B. A
Wm. A.
W. Seal
Buffalo
Crews
Dake
Westin
Ames
The Ba
Newpo
Co., N
Struthe
W. D.
Newbu
burgh
Westin
The Vi
George
Hoover
Davis
Maryla
James
Nye &
Smith
Lidger
Davis
Union
The B
Charlo
Meckle
Philad
Remin
Camer
S. C. F
Frick
Valk
Maryla

Engl
Americ
Olin
Super
Cook
J. W.
Foss
Otto

Engl
Baltim
Ex
Repa
F
B. F.
Buffa

Fe
Keys
Warr
Natio
Stillw
Phila

Fe
Dow
E. T.
Dufu
Ludl

Fe
C. H.
Foss
Brad
Star
The
Cam
Valk
Wall

FI
G. A.
Chas
Nick

FI
Pom
H. A
Pow

FI
Mar
No
The
The
Gen
Cha

FI
Sto
Sto

FI
No
Pa
Mu
Spr
B.
Stu
W.
Un
Da
Au
H.
Sti

FI
Th
Th
Th
J.

FI
Th
R.
Y.
M.
P.

H
D

CLASSIFIED INDEX OF ADVERTISERS.

FOR "ALPHABETICAL INDEX" SEE PAGE 120.

Engines. [See Machinery.]

Valley Iron Works, Williamsport, Pa.
Paragon Mill & Mch. Works, Chicago, Ill.
American Well Works, Aurora, Ill.
Keystone Engine and Mch. Wks., Phila., Pa.
American-Ball Eng. Co., Bound Brook, N. J.
J. B. Allfree Mfg. Co., Indianapolis, Ind.
Wm. A. Harris Stm. Eng. Co., Providence, R. I.
W. Seabury Simmons, New York, N. Y.
Buffalo Forge Co., Buffalo, N. Y.
Crews & Westbrooks, Danville, Va.
Dake Engine Co., Grand Haven, Mich.
Westinghouse Machine Co., Pittsburg, Pa.
Ames Iron Works, Oswego, N. Y.
The Ball Engine Co., Erie, Pa.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
Struthers, Wells & Co., Warren, Pa.
W. D. Forbes & Co., Hoboken, N. J.
Newburgh Ice Machine & Engine Co., Newburgh, N. Y.
Westinghouse, Church, Kerr & Co., Boston.
The Vulcan Works, Chester, Pa.
George M. Clapp, New York, N. Y.
Hooven, Owens, Rentschler Co., Hamilton, O.
Davis-Farrar Co., Erie, Pa.
Maryland Steel Co., Sparrow's Point, Md.
James Leffel & Co., Springfield, O.
Nye & Tredick, Philadelphia, Pa.
Smith-Courtney Co., Richmond, Va.
Lidgerwood Mfg. Co., New York, N. Y.
Davis Fdy. & Machine Works, Rome, Ga.
Union Iron Works Co., Selma, Ala.
The Bailey-Lebby Co., Charleston, S. C.
Charlotte Machine Co., Charlotte, N. C.
Mecklenburg Iron Works, Charlotte, N. C.
Philadelphia Eng. Wks., Ltd., Phila., Pa.
Remington Machine Co., Wilmington, Del.
Cameron & Barkley Co., Charleston, S. C.
S. C. Forsyth Mch. Co., Manchester, N. H.
Frick Co., Waynesboro, Pa.
Valk & Murdoch Iron Wks., Charleston, S. C.
Maryland Mfg. & Cons. Co., Baltimore, Md.

Engines. (Gas and Gasoline.)

American Well Works, Aurora, Ill.
Olin Gas Engine Co., Buffalo, N. Y.
Superior Gas Engine Co., Springfield, O.
Cook-Stoddard Mfg. Co., Dayton, O.
J. W. Ruger & Co., Buffalo, N. Y.
Foss Gas Engine Co., Springfield, O.
Otto Gas Engine Works, Philadelphia, Pa.

Engravers.

Baltimore Engraving Co., Baltimore, Md.

Explosives.

Repauno Chemical Co., Wilmington, Del.
Fama. (Ventilating.)
B. F. Sturtevant Co., Boston, Mass.
Buffalo Forge Co., Buffalo, N. Y.

Feed Water Heaters.

Keystone Engine and Mch. Wks., Phila., Pa.
Warren Webster & Co., Philadelphia, Pa.
National Pipe Bend. Co., New Haven, Conn.
Stillwell-Bierce & Smith-Valle Co., Dayton, O.
Philadelphia Eng. Works, Ltd., Phila., Pa.

Fencing.

Dow Wire Works Co., Louisville, Ky.
E. T. Burrows & Co., Portland, Me.
Dufur & Co., Baltimore, Md.
Ludlow-Saylor Wire Co., St. Louis, Mo.

Fertilizer Machinery.

C. H. Dempwolf & Co., York, Pa.
Foss Mfg. Co., Springfield, O.
Bradley Pulverizer Co., Boston, Mass.
Sturtevant Mill Co., Boston, Mass.
The Bailey-Lebby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Valk & Murdoch Iron Wks., Charleston, S. C.
Walker & Elliott, Wilmington, Del.

Files.

G. & H. Barnett Co., Philadelphia, Pa.
Chas. H. Besly & Co., Chicago, Ill.
Nicholson File Co., Providence, R. I.

Fire Brick.

Pomona Terra Cotta Co., Pomona, N. C.
H. Stevens's Sons Co., Macon, Ga.
Powhatan Clay Mfg. Co., Richmond, Va.

Fire Extinguishers.

Manufacturers' Automatic Sprinkler Co., New York, N. Y.
The Milner & Kettig Co., Birmingham, Ala.
The Bailey-Lebby Co., Charleston, S. C.
General Fire Exting. Co., Providence, R. I.
Charlotte Machine Co., Charlotte, N. C.

Flexible Shafts.

Stow Flexible Shaft Co., Philadelphia, Pa.
Stow Mfg. Co., Binghamton, N. Y.

Flour and Grist Mill Machinery and Supplies.

Nordyke & Marmon Co., Indianapolis, Ind.
Paragon Mill & Mch. Works, Chicago, Ill.
Munson Bros., Utica, N. Y.
Sprout, Waldron & Co., Muncy, Pa.
B. F. Starr & Co., Baltimore, Md.
Sturtevant Mill Co., Boston, Mass.
W. J. Clark Co., Salem, Ohio.
Union Iron Works, Selma, Ala.
Davis Fdy. & Machine Works, Rome, Ga.
August Wolf & Co., Chambersburg, Pa.
H. W. Caldwell & Son Co., Chicago, Ill.
Stillwell-Bierce & Smith-Valle Co., Dayton, O.

Forgings. (Steel.)

The Bethlehem Iron Co., So. Bethlehem, Pa.

Foundry Equipments.

The S. Obermayer Co., Cincinnati, O.
The Vulcan Works, Chester, Pa.
J. W. Paxson & Co., Philadelphia, Pa.

Fuel Economizers.

The Fuel Economizer Co., Matteawan, N. Y.

Fuel Gas Producers.

R. D. Wood & Co., Philadelphia, Pa.

Furnace Builders.

Youngstown Boiler Co., Youngstown, O.
Maryland Steel Co., Sparrow's Point, Md.
Philadelphia Eng. Wks., Ltd., Phila., Pa.

Gas and Steam Fitters' Tools.

Henry B. Pancoast & Co., Philadelphia, Pa.
D. Saunders' Sons, Yonkers, N. Y.

Gearing.

Chester Steel Castings Co., Phila., Pa.

Gears and Pinions.

Dorner & Dutton Mfg. Co., Cleveland, O.

Glass. (Stained.)

Empire Glass & Decorat'n Co., Atlanta, Ga.
C. W. Asbrand, Cleveland, O.
W. A. Heffernan, Lynchburg, Va.

Glasses. [See Enamels.]**Granite.**

Stewart Contracting Co., Columbia, S. C.

Grates and Grate Bars.

McClave, Brooks & Co., Scranton, Pa.
Southern Log Cart & Supply Co., Mobile, Ala.
F. H. Bing, Philadelphia, Pa.

Grain Elevator Supplies.

W. J. Clark Co., Salem, Ohio.
H. W. Caldwell & Son Co., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Eng'g Co., Nicetown (Phila.), Pa.

Graphite.

Jos. Dixon Crucible Co., Jersey City, N. J.

Grease Cups.

Ahrens & Ott Mfg. Co., Louisville, Ky.
Lunkenheimer Co., Cincinnati, O.

Grinding and Polishing Mch.

Williamsport Machine Co., Williamsport, Pa.
Stow Mfg. Co., Binghamton, N. Y.
Sterling Emery Wheel Co., Tiffin, O.
Norton Emery Wheel Co., Worcester, Mass.

Hammers. (Steam and Power.)

J. M. Robinson & Co., Cincinnati, O.

Handle Mch. [See Woodwork'g Mch.]

J. A. Fay & Co., The Egan Co., Cincinnati, O.
Ober Lathe Co., Chagrin Falls, O.
S. C. Forsyth Mch. Co., Manchester, N. H.
Trevor Mfg. Co., Lockport, N. Y.

Hardware Specialties.

Chas. H. Besly & Co., Chicago, Ill.
Standard Tool Co., Cleveland, O.
Wrightsville Hardware Co., Wrights'v'e, Pa.
W. J. Clark Co., Salem, Ohio.
Crunk Hanger Co., Elmira, N. Y.
Covert Mfg. Co., West Troy, N. Y.

Hardwoods.

E. D. Albro Co., Cincinnati, O.

Heating Apparatus.

The Peck-Hammond Co., Cincinnati, O.
T. H. Brooks & Co., Cleveland, O.
Warren Webster & Co., Philadelphia, Pa.

Holisting Machinery.

Dake Engine Co., Grand Haven, Mich.
W. A. Crook & Bros. Co., Newark, N. J.
Contractors' Plant Mfg. Co., Buffalo, N. Y.
Brown Holst. & Con. Mch. Co., Cleveland, O.
Lidgerwood Mfg. Co., New York, N. Y.
Union Fdy. & Mch. Wks., Rockaway, N. J.
John F. Byers Machine Co., Ravenna, O.
Sullivan Machinery Co., Chicago, Ill.
Ryan-McDonald Mfg. Co., Baltimore, Md.

Hose.

Whitney & Sloo Co., Ltd., New Orleans, La.
N. J. Car Spring & Rub. Co., Jersey City, N. J.
Boston Belting Co., Boston, Mass.
John C. N. Guilbert, New York, N. Y.

Hose Racks.

John C. N. Guilbert, New York, N. Y.

Hotels.

Hotel Aragon, Atlanta, Ga.
New Atlantic, Norfolk, Va.

Hydrants.

Chapman Valve Mfg. Co., Indian Orchard, Mass.
Ludlow Valve Mfg. Co., Troy, N. Y.
R. D. Wood & Co., Philadelphia, Pa.
Southern Water Supply Co., Atlanta, Ga.

Ice-Making Machinery.

The Fred. W. Wolf Co., Chicago, Ill.
Lombard Iron Wks. & Sup. Co., Augusta, Ga.
Stillwell-Bierce & Smith-Valle Co., Dayton, O.
Newburgh Ice Machine & Engine Co., Newburgh, N. Y.
Arctic Machine Mfg. Co., Cleveland, O.
Westinghouse, Church, Kerr & Co., Boston.
Remington Machine Co., Wilmington, Del.
Frick Co., Waynesboro, Pa.

Ice & Refrigerating Mch. Supplies.

The Fred. W. Wolf Co., Chicago, Ill.

Injectors.

Jenkins Bros., New York, N. Y.
Penberthy Injector Co., Detroit, Mich.
Ahrens & Ott Mfg. Co., Louisville, Ky.

Insurance.

Catlin & Browne, New York, N. Y.
H. L. White & Co., New York, N. Y.
Union Central Life Ins. Co., Cincinnati, O.
Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.

Iron.

Apollo Iron & Steel Co., Pittsburg, Pa.

Iron Broker.

Edward J. Etting, Philadelphia, Pa.

Iron Buildings and Roofs.

James Stewart & Co., St. Louis, Mo.

Iron Chimneys.

Philadelphia Eng. Wks., Ltd., Phila., Pa.

Ironworking Machinery.

Hill, Clarke & Co., Boston, Mass.
W. D. Forbes & Co., Hoboken, N. J.
Bradford Mill Co., Cincinnati, O.
Springfield Mch. Tool Co., Springfield, O.
Fildell Tool Co., Lowell, Mass.
Chas. H. Besly & Co., Chicago, Ill.
J. M. Robinson & Co., Cincinnati, O.

George Place Mch. Co., New York, N. Y.
Draper Mch. Tool Co., Worcester, Mass.
Stow Mfg. Co., Binghamton, N. Y.
Pennsylvania Mch. Co., Ltd., Phila., Pa.
Stow Flexible Shaft Co., Ltd., Phila., Pa.
Niagara Stamping & Tool Co., Buffalo, N. Y.

Jail Cells and Ironwork.

The Pauly Jail Bldg. & Mfg. Co., St. Louis, Mo.

Kalsomine. (Liquid.)

The Jamieson Fire-Resisting Paint Co., New York, N. Y.

Kilns. (Ceramic Products.)

Zwermann & Co., Baltimore, Md.

Knitting Machinery.

Branson Machine Co., Philadelphia, Pa.
Nye & Tredick, Philadelphia, Pa.

Knuckles for Car-Couplers.

Chester Steel Castings Co., Philadelphia, Pa.

Lamps. (Arc and Incandescent.)

General Electric Co., Schenectady, N. Y.
Fort Wayne Elec. Corp., Fort Wayne, Ind.
Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.

Lands.

Andrew Currie, Shreveport, La.
W. W. Dusen & Bro., Crowley, La.
Morgantown Land & Imp. Co., Morg'n, N. C.
South. Real Estate Ex., Clarksburg, W. Va.
Exchange Bank & Trust Co., Charleston, S. C.

Laths. (Steel.)

South. Expanded Met. Co., Washington, D. C.

Laundry Machinery.

S. H. Sinclair Co., Chicago, Ill.

Lights. (Sidewalk.)

T. H. Brooks & Co., Cleveland, O.

Lights. (Torch. Wells Light.)

Edw. Robinson, New York, N. Y.

Lime.

S. E. Lime & Cement Co., Charleston, S. C.

Locomotive Builders. [See Railroad Equipment and Supplies.]

Climax Mfg. Co., Corry, Pa.
Pittsburg Locomotive Works, Pittsburg, Pa.
Richmond Loco. & Mch. Wks., Richmond, Va.
H. K. Porter & Co., Pittsburg, Pa.
Baldwin Locomotive Wks., Philadelphia, Pa.

Log Dogs.

South. Log Cart & Supply Co., Mobile, Ala.

Lubricators and Oil Cups.

The Lunkenheimer Co., Cincinnati, O.
Chas. H. Besly & Co., Chicago, Ill.
Penberthy Injector Co., Detroit, Mich.

Lumber. [See Directory of Southern Lumber Dealers.]**Machinery.**

J. P. Wetherill Machine Co., Chester, Pa.
Hill, Clarke & Co., Boston, Mass.
Bradford Mill Co., Cincinnati, O.
The Milner & Kettig Co., Birmingham, Ala.
Springfield Mch. Tool Co., Springfield, O.
Fildell Tool Co., Lowell, Mass.
The Bailey-Lebby Co., Charleston, S. C.
E. E. Titus, Petersburg, Va.
J. A. Fay & Co., The Egan Co., Cincinnati, O.
Smith-Courtney Co., Richmond, Va.
R. D. Wood & Co., Philadelphia, Pa.
Pennsylvania Mch. Co., Ltd., Phila., Pa.
S. C. Forsyth Mch. Co., Manchester, N. H.
Stow Flexible Shaft Co., Ltd., Phila., Pa.

Machinery. (Special.)

J. P. Wetherill Machine Co., Chester, Pa.
P. F. Michel, Rochester, N. Y.

Machine Knives.

L. & I. J. White Co., Buffalo, N. Y.
Chattanooga Saw Wks., Chattanooga, Tenn.

Machinery and Tools. (Second-hand.)

Willis Shaw, Chicago, Ill.
W. Seabury Simmons, New York, N. Y.
Chesley Electric Co., Hoboken, N. J.
Hill, Clarke & Co., Boston, Mass.
Chas. E. Gregory Co., Chicago, Ill.
Enterprise Machine Works, Cincinnati, O.
Robert S. Armstrong & Bro., Atlanta, Ga.
N. B. Woolford, Baltimore, Md.
Frank Toomey, Philadelphia, Pa.
Smith-Courtney Co., Richmond, Va.
Geo. Place Machinery Co., New York, N. Y.
New York Mch. Depot, New York, N. Y.

Machinists' Supplies.

Chas. H. Besly & Co., Chicago, Ill.

Mail Chutes.

Cutler Mfg. Co., Rochester, N. Y.

Match Machinery.

J. C. Donnelly, Philadelphia, Pa.

Metal Polishers.

Glidden Specialty Supply Co., Cleveland, O.

Metal-Sawing Machines.

Q. & C. Co., Chicago, Ill.

Mill Engineers.

N. N. Wasiekar & Co., Atlanta, Ga.
Hales & Baillinger, Philadelphia, Pa.
Wm. A. Chapman & Co., Providence, R. I.
C. R. Makepeace & Co., Providence, R. I.

Milling Machines. (Brainard's.)

Hill, Clarke & Co., Boston, Mass.

Mill Supplies.

D. A. Tompkins Co., Charlotte, N. C.
Paragon Mill & Mch. Works, Chicago, Ill.
Whitney & Sloo Co., Ltd., New Orleans, La.
Lombard Iron Wks. & Sup. Co., Augusta, Ga.
Southern Log Cart & Supply Co., Mobile, Ala.
Wm. M. Bird & Co., Charleston, S. C.
Sprout, Waldron & Co., Muncy, Pa.
Chas. H. Besly & Co., Chicago, Ill.
B. F. Starr & Co., Baltimore, Md.
Smith-Courtney Co., Richmond, Va.
W. J. Clark Co., Salem, Ohio.

The Bailey-Lebby Co., Charleston, S. C.
Ahrens & Ott Mfg. Co., Louisville, Ky.
Mecklenburg Iron Works, Charlotte, N. C.
Queen City Supply Co., Cincinnati, O.
Cameron & Barkley Co., Charleston, S. C.
American Supply Co., Providence, R. I.

Mineral Property.

A. S. Davis, Port Deposit, Md.

Mining Screens.

McLannahan & Stone, Hollidaysburg, Pa.
A. J. Beckley & Co., Meriden, Conn.
Mundt & Sons, New York, N. Y.
Harrington & King Perf'g Co., Chicago, Ill.
The Hendrick Mfg. Co., Ltd., Carbondale, Pa.

Mixing Machinery.

C. H. Dempwolf & Co., York, Pa.
W. D. Dunning, Syracuse, N. Y.
Walker & Elliott, Wilmington, Del.

Mortar Colors.

Sam'l. H. French & Co., Philadelphia, Pa.

Mouldings. (Carved.)

Grand Rapids Carved Moulding Co., Grand Rapids, Mich.

Nails. (Shoe.)

Rome Tack & Nail Co., Rome, N. Y.

Naphtha Launches.

Gas Engine & Power Co., Morris Heights, New York city.

Oils.

Wm. M. Bird & Co., Charleston, S. C.
Chas. H. Besly & Co., Chicago, Ill.
Fernandina Oil & Cre. Wks., Fernand'a, Fla.
Wm. C. Robinson & Son, Baltimore, Md.

Oil Filters.

Acme Filter Co., St. Louis, Mo.

Packing.

Tubular Packing Co., Philadelphia, Pa.
Whitney & Sloo Co., Ltd., New Orleans, La.
N. J. Car Spring & Rub. Co., Jersey City, N. J.
Boston Belting Co., Boston, Mass.
Jenkins Bros., New York, N. Y.

Paint.

Standard Paint Co., New York, N. Y.
John S. Reeder, Cincinnati, O.
C. S. Garrett & Son, Philadelphia, Pa.
Wm. M. Bird & Co., Charleston, S. C.
Chattanooga Paint Co., Chattanooga, Tenn.
Samuel H. French & Co., Philadelphia, Pa.
Joseph Dixon Crucible Co., Jersey City, N. J.
Jamieson Fire-Resist. Paint Co., New York
Fernandina Oil & Cre. Wks., Fernand'a, Fla.

Paint. (Fire-resisting.)

Jamieson Fire-Resist. Paint Co., New York.

Paper. (Roofing, Bldg., Sheathing, etc.)

C. S. Garrett & Son, Philadelphia, Pa.
Pay Minilla Roofing Co., Camden, N. J.

Patent Attorneys.

John Wedderburn & Co., Washington, D. C.
Mann & Co., Baltimore, Md.
Joseph Leicester Atkins, Washington, D. C.
Glasecock & Co., Washington, D. C.

Paving Material.

Barber Asphalt Paving Co., New York, N. Y.
Warren Chem. & Mfg. Co., New York, N. Y.

Perforated Metal.

Chas. H. Besly & Co., Chicago, Ill.
A. J. Beckley & Co., Meriden, Conn.
The Hendrick Mfg. Co., Ltd., Carbondale, Pa.
Mundt & Sons, New York, N. Y.
Harrington & King Perf'g Co., Chicago, Ill.

Phosphate Machinery.

Walker & Elliott, Wilmington, Del.
C. H. Dempwolf & Co., York, Pa.
Foss Mfg. Co., Springfield, O.
Bradley Pulverizer Co., Boston, Mass.
Sturtevant Mill Co., Boston, Mass.
McLannahan & Stone, Hollidaysburg, Pa.
Valk & Murdoch Iron Wks., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
The Bailey-Lebby Co., Charleston, S. C.

Phosphate Screens.

A. J. Beckley & Co., Meriden, Conn.
Mundt & Sons, New York, N. Y.
Harrington & King Perf'g Co., Chicago, Ill.
The Hendrick Mfg. Co., Ltd., Carbondale, Pa.
McLannahan & Stone, Hollidaysburg, Pa.

Pillow Blocks.

Golden Fdy. & Mch. Co., Columbus, Ga.

Pipe. (Cast Iron and Steel.)

Ahrens & Ott Mfg. Co., Louisville, Ky.
R. D. Wood & Co., Philadelphia, Pa.
Chattanooga Fdy.

ARCHITECTS, CIVIL ENGINEERS, MINING ENGINEERS, CHEMISTS, Etc.

A. L. MELTON,
Architect,

Heavy Building and Fire-Proof Construction
a Specialty.
SONDLEY BUILDING,
ASHEVILLE, N. C.

HALES & BALLINGER,
Architects & Mill Engineers,
S. W. Corner 12th & Chestnut Sts.,
PHILADELPHIA, PA.

W. S. WAY, E. E.
Consulting and Constructing Engineer.
Plans, Specifications and Estimates,
Lighting and Power Plants and
Telephone Systems a specialty.
Jacksonville, - FLORIDA.

P. BYRNE,
Mechanical and Consulting Engineer,
1821 1/2 Second Avenue, BIRMINGHAM, ALA.
Plans and superintends the construction of Roll-
ing Mill and Furnace Plants; remodels old fur-
naces with latest improvements; coke oven plants,
with latest improved gas flues; cotton mills and
power plants of every description; dams and
canals for water powers, surveys and estimates
made on horse-power of water-powers

WM. A. CHAPMAN & CO.
Mill Builders
Main Office:
PROVIDENCE, R. I.

C. R. MAKEPEACE & CO
Architects and Mill Engineers
PROVIDENCE, R. I. Plans, Specifications and Esti-
mates furnished for Cotton & Woolen Mills.

D. A. GARDER,
494 Louisiana Ave., Washington, D. C.
Builders and General Contractors,
Correspondence Solicited.

W. B. SMITH WHALEY & CO.
ENGINEERS AND ARCHITECTS,
1516 Main Street, COLUMBIA, S. C.

MARTINEZ & MADDAS,
Engineers and Contractors,
1430 S. Peun Square, PHILADELPHIA.

James Stewart & Co. St. Louis. Buffalo.
Heavy Masonry
Contractors.
Railway Buildings, Manufacturing Plants and Grain Elevators.

P. F. CHANUTE, President and Chief Engineer. C. M. PASQUIER, Vice-President and Manager.
H. DASPI, Secretary and Treasurer.

CONSOLIDATED ENGINEERING COMPANY, Ltd.
General Contractors and Manufacturers' Agents,
Make a specialty of Plans, Construction and Equipment of INDUSTRIAL PLANTS
of every description.
No. 817 UNION STREET, NEW ORLEANS, LA.

J. E. BURGESS, President. A. R. STEWART, Gen. Manager, Sec'y and Treas.
STEWART CONTRACTING COMPANY,
House and Mill Building, Dam and Other Heavy Masonry Specialties.

GENERAL CONTRACTORS and BUILDERS. Estimates furnished on any kind of
CONSTRUCTION. Rough and Cut
Granite for Building Purposes and Streets. Crushed Granite for Concrete and Macadam.
BRANCH OFFICE—SAVANNAH, GA. HOME OFFICE—COLUMBIA, S. C.

WATER GUARANTEED. HENRY E. KNOX, Jr.
Consulting and
Hydraulic Engineer.
Artesian and Tube Wells a specialty. General Water Works, Construction,
Surveys, Plans and Estimates. Borings made for Architects, Bridge and Railroad
Engineers. **Pipe and Pumping Machinery.**
CHARLOTTE, N. C.

COMMERCIAL ROSENDALE CEMENT
GUARANTEED ABSOLUTELY HYDRAULIC.
WM. M. BIRD & Co., Southern Agents. COMMERCIAL WOOD & CEMENT CO.
CHARLESTON, S. C. PHILADELPHIA, PA. Genl. Agents.

Ridgemont Cement
UNEQUALLED IN STRENGTH. LOWEST IN COST. ROSENDALE
Hydraulic CEMENT.
RIDGEMONT,
Bedford County, Va.
On the W. & W. R. R.

H. C. RIPLEY,
Civil and Consulting Engineer,
GALVESTON, TEXAS.
Consulting engineer of Aransas Pass improve-
ment. (Late U. S. assistant engineer in charge of
Galveston harbor improvement.) Twenty years'
experience on the Lakes and Gulf Coast in con-
nection with the improvement of rivers and
harbors. Specialties: Hydrographic Surveying,
Plans, Estimates and Specifications for Harbor
Improvements and other Marine Works.

COURTENAY DE KALB,
Consulting Mining Engineer,
F. 26-27 Produce Exchange,
NEW YORK.
Prof. Min. & Met. School of Mines, Univ. of Mo.
Examines and Reports on Mining Properties.
Advice on Plants and Methods of Treatment.

N. N. WASLEKAR, L. F. HAYDEN, O. D. WHEELER.
... EXPERT ADVICE GIVEN ON THE SPOT ...
N. N. WASLEKAR & CO.,
Mill Architects and Engineers.
503 Equitable Building, ATLANTA, GA.
Plans, specifications, details, with estimates.
Cotton Mills and supplying Machinery a specialty.
Old Mills renewed and equipped. Correspondence
solicited.

WINSTON, N. C. 302 MAIN STREET.
J. L. LUDLOW, C. E., M. S.
MUNICIPAL, SANITARY AND HYDRAULIC
ENGINEER.
Reports Plans, Specifications, Estimates of Cost
and Superintendence of Construction for WATER
WORKS, SEWERAGE SYSTEMS and Street
Improvements. Water Supply and Sewage Disposal
for Isolated Institutions and Plants. WATER
POWER SURVEYS and plans for utilizing.

E. F. DODSON & CO.
GENERAL
Contractors - and - Builders,
ATLANTA, GA.
Large contracts taken in any part of the South.

GRANDY BROS. & CO.
General Contractors for
COTTON MILLS, WAREHOUSES, COTTAGES,
BRIDGES and TRUSSES.
Foundations of Wood, Brick or Stone Work.
JOHN F. GRANDY, General Manager.
Temporary Headquarters, SPARTANBURG, S. C.

Architecture

Architectural and
Mechanical Drawing;
Electricity; Mechan-
ics; Plumbing; Min-
ing; Civil Engineering
in all Branches;
Steam Engineering
(Loco., Stat'y and
Marine)
The International
Correspondence Schools



To Carpenters,
Machinists, Electrical
Workers, Plumbers,
Steam Fitters, Pattern
Makers, Steam Engi-
neers, Draughtsmen,
Miners, Civil Engi-
neers, etc. References
Everywhere. Free Cir-
cular. State Subject
you wish to Study.
R. 900, Scranton, Pa.

The Pennsylvania State College

Offers instruction in CIVIL ENGINEERING, ELEC-
TRICAL ENGINEERING, MECHANICAL ENGINEER-
ING, GENERAL SCIENCE, AGRICULTURE, BIOLOGY,
CHEMISTRY, LANGUAGES

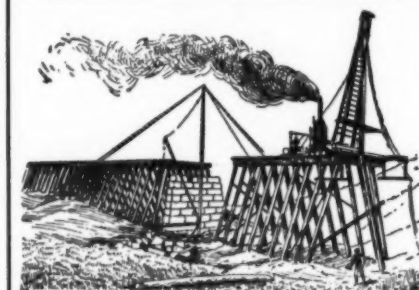
The School of Mines is well equipped and lo-
cated for instruction in Mine Surveying, Geology,
Mining and Metallurgy. Shops and laboratories
for steam engineering, iron work, electricity and
assaying. Mills for coal washing and ore dress-
ing. Mines and furnaces nearby. Four-year
courses, short courses and a twelve-week's lec-
ture course during the winter session. Winter
session opens Jan. 8; Spring session opens April 8;
Fall session opens Sept. 9. For particulars and
catalogue address GEO. W. ATHERTON, LL.D.,
President, State College, Pa.

NAT. G. SCOTT, Contractor.

ROOM 323 HENNER BUILDING,
NEW ORLEANS, LA.
Dredging and Railroad Contracting.
All kinds of Pile Driving, Tressel and Wharf
Work a Specialty.
THE MOST COMPLETE OUTFIT IN THE SOUTH.

CHAS. McFADDEN, Jr.,

Successor to
CHAS. McFADDEN & SONS,
Railroad
Contractors,
722 Arch Street,
... PHILADELPHIA.

**WATKINS & HARDAWAY**

ENGINEERS AND CONTRACTORS,
Chalfoux Building, Birmingham, Ala.
General Railway Work.
Bridges and Masonry.
Especially equipped for heavy pile driving
and trestle work.

**Importers Portland Cement
and Terne Plates.**

C. M. GILBERT & CO. SAVANNAH, GA.

William M. Bird & Co.

IMPORTERS OF
PORTLAND CEMENT.
Agents for
Commercial Rosendale Cement.
Howe Standard Scales.
Diebold Fire and Burglar Proof Safes.
Dealers in
MILL SUPPLIES OF ALL KINDS, OILS,
PAINTS and PAINTING MATERIAL.

It would pay every town and every
property-owner and agent in the South to
advertise in the "Southern States" mag-
azine. It is published by the Manufac-
turers' Record Publishing Co., Balti-
more, Md.

ESTABLISHED 1879.

N. P. Pratt Laboratory,

Fitten Building, ATLANTA, GA.

Assays and analyses of all natural and arti-
ficial products.
Chemical and mining engineering.
Technical processes investigated, mineral
properties examined and reported on.
Special experts in each branch of chemical
science.

DR. HENRY FROEHLING,
Analytical and Consulting Chemist,

17 SOUTH 12th STREET,
Richmond, Va.
Analyses and assays of ores of every kind,
iron, steel and other metals, coal and coke, clays,
marls and limestones, phosphates and fertilizers,
mineral waters, waters for drinking and for
boiler use, oils, commercial products, etc.
Estimates promptly furnished. Geological and
chemical investigation of mineral properties of
the South.

Jo. C. GUILD, Assistant State Geologist.
LINN WHITE, C. E.

GUILD & WHITE,

Keystone Block, Chattanooga, Tenn.
Examination and Reports on Southern
Mineral Properties, and Consultation as to
Development Chemical Analyses. Water-
works and Sewerage Systems.

EDWIN LEHMAN JOHNSON,

Consulting Expert
in Cotton Oil.
240 Main Street, - - - MEMPHIS, TENN.
2205 Strand, - - - GALVESTON, TEXAS.

The special line of the Consulting Expert's
work is to increase the yield and improve the
quality of crude cotton oil in manufacture.
Correspondence invited.

HOWARD-HARRISON IRON CO.
BESSEMER, ALA.

We offer to the trade a
72-Hour Superior Foundry COKE
that is unexcelled in quality in this country.
It is made from the best Alabama Coking Coal,
picked, crushed and thoroughly washed in the
latest improved oven.

Atlanta Terra Cotta Co.

ARTISTIC WORK,
PROMPT DELIVERIES,
LOW PRICES.
Address all communications to
V. H. Kriegshaber, Gen'l Sales Agent, Atlanta, Ga.

POMONA TERRA COTTA CO., Pomona, N. C.

SEWER PIPE
Manufacturers
SEWER, DRAIN, CULVERT and
TERRA-COTTA FLUE PIPE
and FIRE BRICK.

SOUTHEASTERN LIME & CEMENT CO.
CHARLESTON, S. C.

Direct importers
ENGLISH and BELGIUM PORTLAND CEMENTS.
Southern Agents New York & Rosendale Cement
Co.'s Standard Hydraulic Cement.
Brooklyn Bridge and Hudson River Brands.

SOUTH EASTERN PLASTER CO
SAVANNAH, GA.

Importers of ENGLISH PORTLAND
CEMENT
MANUFACTURERS OF
PLASTER PARIS, LAND PLASTER
AND
ADAMANT
Wall Plaster.
The best on earth. Write for circulars and prices.

CLASSIFIED INDEX OF ADVERTISERS.

FOR "ALPHABETICAL INDEX" SEE PAGE 120.

Presses. (Baling, etc.)

E. Van Winkle Gin & Mch. Wks., Atlanta, Ga.
 P. F. Michel, Rochester, N. Y.
 G. H. Bushnell Press Co., Thompson's, Conn.
 DeLoach Mill Mfg. Co., Atlanta, Ga.
 Cardwell Machine Co., Richmond, Va.
 Bomer & Boschert Press Co., Syracuse, N. Y.
 Valk & Murdoch Iron Wks., Charleston, S. C.

Pulleys. (Wood.)

Taper-Sleeve Pulley Works, Erie, Pa.

Pulleys, Shafting and Hangers.

A. & F. Brown, New York, N. Y.
 Paragon Mill & Mch. Works, Chicago, Ill.
 J. B. Allfree Mfg. Co., Indianapolis, Ind.
 Falls River & Mch. Co., Cuyahoga Falls, O.
 Cumberland Iron & Steel Shafting Co., Cumberland, Md.
 Lombard Iron Wks. & Sup. Co., Augusta, Ga.
 Golden Fdy. & Mch. Co., Columbus, Ga.
 Nurdyke & Marmon Co., Indianapolis, Ind.
 Lane Mfg. Co., Montpelier, Vt.
 August Wolf & Co., Chambersburg, Pa.
 Charlotte Machine Co., Charlotte, N. C.
 E. M. Freese & Co., Gallon, O.
 Maryland Mfg. & Cons. Co., Baltimore, Md.
 Walker & Elliott, Wilmington, Del.
 Taper-Sleeve Pulley Works, Erie, Pa.
 H. W. Caldwell & Son Co., Chicago, Ill.

Pumps. (Centrifugal.)

American Well Works, Aurora, Ill.
 Davis-Farrar Co., Erie, Pa.

Pumps. (Hand and Power.)

American Well Works, Aurora, Ill.
 Knowles Stm. Pump Wks., New York, N. Y.
 Deming Co., Salem, O.

Pumps. (Power Boiler-Feed.)

American Well Works, Aurora, Ill.
 Keystone Engine and Mch. Wks., Phila., Pa.
 W. M. Leathley & Co., Richmond, Va.
 A. S. Cameron St. Pump Wks., New York, N. Y.
 John H. McGowan Co., Cincinnati, O.
 Battle Creek St. Pump Co., Battle Ck., Mich.
 Geo. F. Blake Mfg. Co., New York, N. Y.

Pumps. (Steam.)

American Well Works, Aurora, Ill.
 Crews & Westbrook, Danville, Va.
 Mason Regulator Co., Boston, Mass.
 Knowles Stm. Pump Wks., New York, N. Y.
 Geo. F. Blake Mfg. Co., New York, N. Y.
 The Vulcan Works, Chester, Pa.
 George M. Clapp, New York, N. Y.
 Snow Steam Pump Works, Buffalo, N. Y.
 Rumsey & Co., Ltd., Seneca Falls, N. Y.
 Battle Creek St. Pump Co., Battle Ck., Mich.
 Cameron & Barkley Co., Charleston, S. C.
 Stillwell-Bierce & Smith-Valle Co., Dayton, O.
 John H. McGowan & Co., Cincinnati, O.
 Union Fdy. & Mch. Wks., Rockaway, N. J.
 Henry R. Worthington, New York, N. Y.
 Pulsonator Stm. Pump Co., New York, N. Y.
 Dean Bros. St. Pump Wks., Indianapolis, Ind.
 A. S. Cameron St. Pump Wks., New York, N. Y.

Pumping Machinery.

American Well Works, Aurora, Ill.
 Henry E. Knox, Jr., Charlotte, N. C.
 Snow Steam Pump Works, Buffalo, N. Y.
 Erwin Hydraulic Mch. Co., Milwaukee, Wis.

Pump Governor.

Mason Regulator Co., Boston, Mass.
 E. Keeler Co., Williamsport, Pa.

Punching and Shearing Machinery.

Bertsch & Co., Cambridge City, Ind.
 Wals & Roos Punch & Shear Co., Cincinnati, O.
 J. M. Robinson & Co., Cincinnati, O.
 Niagara Stamp & Tool Wks., Buffalo, N. Y.
 S. C. Forsyth Mch. Co., Manchester, N. H.

Quarry and Stonecutting Mch.

Chrome Steel Works, Brooklyn, N. Y.
 Sullivan Machinery Co., Chicago, Ill.
 Rand Drill Co., New York, N. Y.
 Ingersoll-Sargeant Drill Co., New York, N. Y.
 Jeffrey Mfg. Co., Columbus, O.

Railroad Equipment and Supplies.

(New and Second-Hand.)
 Climax Mfg. Co., Corry, Pa.
 Sabell Bros., Jacksonville, Fla.
 J. H. Taylor & Co., St. Louis, Mo.
 F. M. Pease, Chicago, Ill.
 R. L. Glinburg & Sons, Detroit, Mich.
 Southern Log Cart & Sup'y Co., Mobile, Ala.
 New York Equipment Co., New York, N. Y.
 Dallett & Co., Philadelphia, Pa.
 Dornier & Dutton Mfg. Co., Cleveland, O.
 Geo. C. Ball & Co., Atlanta, Ga.
 Joseph Joseph & Bros., Cincinnati, O.
 Smith & Kilby Co., Anniston, Ala.
 Block-Pollak Iron Co., Cincinnati, O.
 Pittsburg Locomotive Wks., Pittsburg, Pa.
 M. Mithskun & Co., Detroit, Mich.
 Poulterer & Co., Philadelphia, Pa.
 Davis, Kelly & Co., Louisville, Ky.
 Hickman & Williams, Louisville, Ky.
 The Bailey-Lebby Co., Charleston, S. C.
 Cameron & Barkley Co., Charleston, S. C.
 Wm. Miningerode, Lynchburg, Va.
 L. K. Hirsch, Chicago, Ill.
 Robinson & Orr, Pittsburg, Pa.
 Weir Frog Co., Cincinnati, O.
 Humphreys & Sayce, New York, N. Y.
 Richmond Loco. & Mch. Wks., Richmond, Va.
 H. K. Porter & Co., Pittsburg, Pa.
 Baldwin Locomotive Works, Philadelphia, Pa.

Rails. (Steel.)

Maryland Steel Co., Sparrow's Point, Md.
 The Bethlehem Iron Co., S. Bethlehem, Pa.

Raw Hide Paper Roofing & Lining.

C. S. Garrett & Son, Philadelphia, Pa.

Refrigerating Plants. [See Ice-making Machinery.]

Regulators. (Water & Steam Pressure.)
 Mason Regulator Co., Boston, Mass.

H. Mueller Mfg. Co., Decatur, Ill.
 Ahrens & Ott Mfg. Co., Louisville, Ky.
 Henry R. Worthington, New York, N. Y.

Rice Huller and Polisher.

Engelberg Huller Co., Syracuse, N. Y.

Riding Gallery. (Steam.)

Armitage-Herschell Co., N. Tonawanda, N. Y.

Road Machinery.

Kansas City Wheel Scraper Co., Kansas City, Mo.
 Fleming Mfg. Co., Fort Wayne, Ind.
 Kilbourne & Jacobs Mfg. Co., Columbus, O.

Rolling Mill Machinery.

The Vulcan Works, Chester, Pa.
 Union Fdy. & Mch. Wks., Rockaway, N. J.

Roofing. (Felt, Tar, Asphalt, Paper, etc.)

Standard Paint Co., New York, N. Y.
 Fay Manilla Roofing Co., Camden, N. J.
 Warren Chem. & Mfg. Co., New York, N. Y.
 Consolidated Roofing Works, Columbus, O.
 Empire Paint & Roofing Co., Phila., Pa.
 C. S. Garrett & Son, Philadelphia, Pa.

Roofing and Siding. (Metal.)

N. Orleans Rfg. & Met. Wks., N. Orleans, La.
 Cincinnati Corrugating Co., Piqua, Ohio.
 Gedge Bros. Iron Roofing Co., Anderson, Ind.
 Philadelphia Steel Roofing Co., Phila., Pa.
 Canton Steel Roofing Co., Canton, O.
 A. Northrop & Co., Pittsburg, Pa.
 Gara, McGinley & Co., Philadelphia, Pa.
 Cortright Metal Roofing Co., Phila., Pa.

Roofing. (Metal Shingles.)

Cortright Metal Roofing Co., Phila., Pa.

Roofing. (Slate.)

David McKenna, Slatington, Pa.

Roofers' and Tinner's Supplies.

J. M. Robinson & Co., Cincinnati, O.

Rubber Goods.

N. J. Car Spring & Rub. Co., Jersey City, N. J.
 Patapsco Rubber Co., Baltimore, Md.
 Boston Belting Co., Boston, Mass.

Saddlery, Harness.

Whitney & Sloo Co., Ltd., New Orleans, La.

Sanitary Dump Carts.

U. S. Sanitary Co., Washington, D. C.

Saws. [See Woodworking Machinery.]

H. Disston & Sons, Philadelphia, Pa.
 The Q. & C. Co., Chicago, Ill.
 E. C. Atkins & Co., Indianapolis, Ind.
 W. F. & John Barnes Co., Rockford, Ill.

Saw Mill Machinery.

Williamsport Machine Co., Williamsport, Pa.
 Hench & Dromgold, York, Pa.
 DeLoach Mill Mfg. Co., Atlanta, Ga.
 Union Iron Works Co., Selma, Ala.
 The Bailey-Lebby Co., Charleston, S. C.
 Lane Mfg. Co., Montpelier, Vt.
 J. A. Fay & Co., The Egan Co., Cincinnati, O.
 Mecklenburg Iron Works, Charlotte, N. C.
 Cameron & Barkley Co., Charleston, S. C.
 U. S. Machine Co., Williamsport, Pa.
 Frick Co., Waynesboro, Pa.
 S. C. Forsyth Mch. Co., Manchester, N. H.
 E. & B. Holmes Mch. Co., Buffalo, N. Y.

Schools and Colleges.

The Penna. State College, State College, Pa.
 International Corres. Schools, Scranton, Pa.

Screens. (Fly.)

Willer Mfg. Co., Milwaukee, Wis.
 E. T. Burrows Co., Portland, Me.

Screens. (Ore and Coke.)

McLanahan & Stone, Hollidaysburg, Pa.
 Hendrick Mfg. Co., Ltd., Carbondale, Pa.
 Mundt & Sons, New York, N. Y.
 A. J. Beckley & Co., Meriden, Conn.
 Harrington & King Perf. Co., Chicago, Ill.

Screen Plates.

A. J. Beckley & Co., Meriden, Conn.
 Hendrick Mfg. Co., Ltd., Carbondale, Pa.
 Harrington & King Perf. Co., Chicago, Ill.
 Mundt & Sons, New York, N. Y.

Screws. (Machine and Wood.)

Philadelphia Mch. Screw Wks., Phila., Pa.

Scroll Saws. [See Woodworking Mch.]

H. L. Beach, Montrose, Pa.
 W. F. & John Barnes Co., Rockford, Ill.
 J. A. Fay & Co., The Egan Co., Cincinnati, O.

Separator. (Steam and Grease.)

Keystone Engine and Mch. Wks., Phila., Pa.
 Culver Mfg. Co., Scranton, Pa.
 Westinghouse, Church, Kerr & Co., Boston.

Shafting. [See Pulleys.]**Sheet Lead.**

James Robertson Mfg. Co., Baltimore, Md.

Sheet Metal Working Machinery.

Bertsch & Co., Cambridge City, Ind.
 Springfield Mch. Tool Co., Springfield, O.
 Chas. H. Besly & Co., Chicago, Ill.
 Stevenson & Co., Baltimore, Md.
 J. M. Robinson & Co., Cincinnati, O.
 Niagara Stamp & Tool Co., Buffalo, N. Y.

Shingle, Lath and Stave Machinery.

[See Woodworking Machinery.]
 Lane Mfg. Co., Montpelier, Vt.
 United States Mch. Co., Williamsport, Pa.

E. & B. Holmes Mch. Co., Buffalo, N. Y.
 Trevor Mfg. Co., Lockport, N. Y.
 S. C. Forsyth Mch. Co., Manchester, N. H.

Shingle Bands.

Southern Log Cart & Sup'y Co., Mobile, Ala.

Ship Builders. (Iron and Steel.)

Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
 Maryland Steel Co., Sparrow's Point, Md.

Shoes and Dies.

Chrome Steel Works, Brooklyn, N. Y.

Shutters. (Fire-proof.)

Canton Steel Roofing Co., Canton, O.

Sirens. (Steam Whistles.)

A. & F. Brown, New York, N. Y.

Skylights.

S. Kelghley & Co., Pittsburg, Pa.
 Gara, McGinley & Co., Philadelphia, Pa.

Slate. (Roofing and Blackboard.)

David McKenna, Slatington, Pa.

Snuff-Mill Machinery.

Adams & Price L. & M. Wks., Nashville, Tenn.

Soapmakers' and Butchers' Mch.

H. Wm. Dopp & Son, Buffalo, N. Y.

Speaking Tubes.

Chas. H. Besly & Co., Chicago, Ill.

Springs. (Spiral.)

Chas. H. Besly & Co., Chicago, Ill.
 N. J. Car Spring & Rub. Co., Jersey City, N. J.

Sprinklers—Automatic. [See Fire Extinguishers.]

Standpipes.

Youngstown Boiler Co., Youngstown, O.
 Gillette-Herzog Mfg. Co., New Orleans, La.
 Lombard Iron Wks. & Sup. Co., Augusta, Ga.
 Birmingham Boiler Wks., Birmingham, Ala.
 Philadelphia Engine Wks., Ltd., Phila., Pa.

Staves.

W. S. Lewis, Charleston, W. Va.

Steam Shovels. [See Dredges and Excavators.]

Steam Traps.

Mason Regulator Co., Boston, Mass.
 Ahrens & Ott Mfg. Co., Louisville, Ky.

Steamship Lines.

Richmond & York River Line, Balto., Md.
 Merchants & Miners' Trans. Co., Balto., Md.
 Bay Line Steamers, Baltimore, Md.
 Baltimore Storage & Light Co., Balto., Md.

Steel. (Manufacturers of)

Apollo Iron & Steel Co., Pittsburg, Pa.
 Bethlehem Iron Wks., South Bethlehem, Pa.
 Chester Steel Castings Co., Phila., Pa.
 Chrome Steel Works, Brooklyn, N. Y.

Steel. (Safe and Vault.)

Chrome Steel Works, Brooklyn, N. Y.

Stokers. (Mechanical.)

Brightman Furnace Co., Cleveland, O.
 Westinghouse, Church, Kerr & Co., Boston.
 J. M. Wilkinson Mfg. Co., Bridgeport, Pa.

Tanks. (Iron and Steel.)

Youngstown Boiler Co., Youngstown, O.
 R. M. Wilson, Rome, N. Y.
 Lombard Iron Wks. & Sup. Co., Augusta, Ga.
 Pittsburg Locomotive Wks., Pittsburg, Pa.
 Birmingham Boiler Wks., Birmingham, Ala.
 Tudor Boiler Mfg. Co., Cincinnati, O.
 Valk & Murdoch Iron Wks., Charleston, S. C.

Tanks. (Wood.)

Cypress Lumber Co., Apalachicola, Fla.

Tarred Goods.

C. S. Garrett & Son, Philadelphia, Pa.

Telephones.

Raymond, Stearnes & Gray, New Orleans, La.
 The Rawson Electric Co., Elyria, O.
 Electrical Sup. & Telephone Co., Phila., Pa.
 Mason-Maxwell Tel. Mfg. Co., Richmond, Va.
 Union Electric Co., Cleveland, O.

Terne Plate.

C. M. Gilbert & Co., Savannah, Ga.

Terra Cotta.

Pomona Terra Cotta Co., Pomona, N. C.
 V. H. Kriegshaber, Atlanta, Ga.

Textile Machinery. [See Cotton Mill Machinery.]

D. A. Tompkins Co., Charlotte, N. C.
 W. Seabury Simmons, New York, N. Y.
 Branson Machine Co., Philadelphia, Pa.
 Geo. W. Payne & Co., Pawtucket, R. I.
 Jeremiah Clark, Lowell, Mass.
 Lowell Machine Shop, Lowell, Mass.
 Nye & Tredegar, Philadelphia, Pa.
 American Supply Co., Providence, R. I.
 Crompton Loom Works, Worcester, Mass.
 George Draper & Sons, Hopedale, Mass.
 Whitinsville Spin. Ring Co., Whitinsville, Mass.
 Mason Machine Works, Taunton, Mass.
 Charlotte Machine Co., Charlotte, N. C.
 Kilburn, Lincoln & Co., Fall River, Mass.
 Providence Machine Co., Providence, R. I.
 Knowles Loom Works, Worcester, Mass.
 Easton & Burnham Mch. Co., Pawtucket, R. I.

Tiles.

Columbia Encaustic Tile Co., Anderson, Ind.

Tobacco Machinery.

Crews & Westbrook, Danville, Va.
 Cardwell Machine Co., Richmond, Va.
 Buckeye Iron and Brass Works, Dayton, O.

Tools. (Machinists' and Mechanics')

Springfield Mch. Tool Co., Springfield, O.
 Field Tool Co., Lowell, Mass.
 Standard Tool Co., Cleveland, O.
 Chas. H. Besly & Co., Chicago, Ill.
 Henry B. Pancoast & Co., Philadelphia, Pa.

Tool Expander.

Johnson Tool Co., Wilkes Barre, Pa.

Torch. (Contractors. Wells Light.)

Ewd. Robinson, New York, N. Y.

Towns.

Charleston, S. C.
 Crowley, La.
 Lynchburg, Va.

Track Cleaners.

Dornier & Dutton Mfg. Co., Cleveland, O.

Trust Companies. [See Bankers and Brokers.]

Tubing.

Chas. H. Besly & Co., Chicago, Ill.

Turbines. [See Water Wheels.]**Typewriters.**

Wyckoff, Seamans & Benedict, New York.

Valves.

E. B. Kunkle & Co., Fort Wayne, Ind.
 Culver Mfg. Co., Scranton, Pa.
 The Lunkenheimer Co., Cincinnati, O.
 The Vulcan Works, Chester, Pa.
 Mason Regulator Co., Boston, Mass.
 Chapman Valve Mfg. Co., Indian Orchard, Mass.
 Southern Water Supply Co., Atlanta, Ga.
 N. J. Car Spring & Rub. Co., Jersey City, N. J.
 Ahrens & Ott Mfg. Co., Louisville, Ky.
 R. D. Wood & Co., Philadelphia, Pa.
 Jenkins Bros., New York, N. Y.
 Ludlow Valve Mfg. Co., Troy, N. Y.

Veneer Machines.

E. E. Titus, Petersburg, Va.

Wagon Builders' Mch. & Supplies.

Cordesman, Meyer & Co., Cincinnati, O.
 H. L. Beach, Montrose, Pa.
 J. A. Fay & Co., The Egan Co., Cincinnati, O.

Washers. (Ore and Phosphate.)

McLanahan & Stone, Hollidaysburg, Pa.
 Valk & Murdoch Iron Wks., Charleston, S. C.
 Cameron & Barkley Co., Charleston, S. C.
 The Bailey-Lebby Co., Charleston, S. C.

Water Columns.

Reliance Gauge Co., Cleveland, O.

Water Heater.

Horix Mfg. Co., Cleveland, O.

Water Motors.

Erwin Hydraulic Mch. Co., Milwaukee, Wis.

Water Wheels and Turbines.

Burnham Bros., York, Pa.
 James Leffel & Co., Springfield, O.
 Davis Fdy. & Machine Works, Rome, Ga.
 Lane Mfg. Co., Montpelier, Vt.
 August Wolf & Co., Chambersburg, Pa.
 Stillwell-Bierce & Smith-Valle Co., Dayton, O.
 S. Morgan Smith, York, Pa.

Water Works and Sewerage.

Henry E. Knox, Jr., Charlotte, N. C.
 R. D. Wood & Co., Philadelphia, Pa.
 Southern Water Supply Co., Atlanta, Ga.

Well Tools and Supplies. (Artesian.)

American Well Works, Aurora, Ill.
 Williams Bros., Ithaca, N. Y.
 Deming Co., Salem, O.
 Southern Water Supply Co., Atlanta, Ga.

Wheelbarrows and Trucks.

Birmingham Boiler Wks., Birmingham, Ala.
 Kilbourne & Jacobs Mfg. Co., Columbus, O.

White Lead.

Saml. H. French & Co., Philadelphia, Pa.

Windlasses and Capstans.

American Ship Wind. Co., Providence, R. I.

Wire, Wire Rope, Barbed Wire, etc.

Roberts Steel Chain Belt Co., Pittsburg, Pa.
 Contractors' Plant Mfg. Co., Buffalo, N. Y.
 Chas. H. Besly & Co., Chicago, Ill.
 Trenton Iron Co., Trenton, N. J.
 Ludlow-Saylor Wire Co., St. Louis, Mo.

Wire Goods.

Dow Wire Works Co., Louisville, Ky.
 E. T. Burrows Co., Portland, Me.
 Chas. H. Besly & Co., Chicago, Ill.
 Dufur & Co., Baltimore, Md.
 Ludlow-Saylor Wire Co., St. Louis, Mo.

Wood

If you wish to know all about

CANNING

Write for Prospectus of our valuable book
The SECRETS OF CANNING.

JOHN MURPHY & CO.
BALTIMORE, MD.

CANNING MACHINERY

Especially Adapted to the South.
FULL INSTRUCTIONS FURNISHED FOR
PUTTING UP OUTFITS.

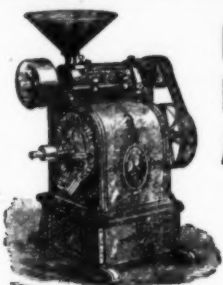
Also for Processing all the various Canned
Goods without the aid of skilled labor.

A. K. ROBINS & CO.
724 E. Pratt Street, BALTIMORE, MD.

CAN-Making and Can-Testing Machinery

Manufactured by
STEVENSON & CO.
Baltimore, Md.

FLOURING MILL MACHINERY.
BUILT BY CONTRACT.
ROLLER & BUHR SYSTEM
FRENCH BUHR MILLS
28 SIZES AND STYLES
OVER 20,000 IN USE. A BOY
CAN OPERATE
A COMPLETE MILL
AND SHELTER LESS
THAN \$100. REDUCED
PRICE FOR SEASON
OF 1894 EVERY MILL
WARRANTED FIFTY-MILL
AND FORTY-MILL
LOCAL FREE. **NORDYKE & MARMON CO.**
86 DAY ST. INDIANAPOLIS IND. U.S.A.



**Rice
Planters,
Attention!**

Send for
Catalogue "K,"
Rice Huller and
Polisher, to

THE ENGELBERG HULLER CO.
SYRACUSE, N. Y.

Union Elevator & Machine Co.
DIRECT ELECTRIC, DIRECT STEAM,
BELT POWER, HAND POWER
ELEVATORS.
144 and 146 ONTARIO STREET,
CHICAGO.

ENAMELS AND GLAZES

IN ALL COLORS

for Brick and Tile Plants and for Potteries.

KILNS and furnaces for high-grade
ceramic products, for glass factories and
for enamel works.

Entire brick and tile plants designed
and superintended.

ZWERMANN & CO.
Allen and Clement Streets,
BALTIMORE, MD.

MEDAL AND DIPLOMA AWARDED
WORLD'S COLUMBIAN EXPOSITION.

Grinnell Automatic Sprinklers

THOUSANDS OF FIRES IN ALL PARTS
OF THE WORLD

in which the damage has been confined to
limited area, and minimum amount, show
the value of this system.

Executive Offices—Providence, R. I.

**GENERAL FIRE EXTINGUISHER
COMPANY.**

Information and proposals given on appli-
cation.

BICYCLES

at dull
season
prices.
Now is the time to buy and save money. Send a
stamp for our bargain list of high-grade second-
hand wheels. Good machines from \$15 up.

EISENBRANDT CYCLE CO.
BALTIMORE, MD.

ESTABLISHED 1844.

BUCK LEAD BEST WHITE PAINT.

SAMUEL H. FRENCH & CO.
PHILADLPHIA.

The Columbia Encaustic Tile Co.

Manufacturers of

Vitreous Floor Tile.
Plain Unglazed Floor Tile.
White Wall Tile

For WAINSCOTING.

Plain and Embossed
Enamel Tiles.

For HEARTH and FACINGS.

Decorated Tiles
WHITE and GOLD, etc.

ANDERSON, IND.
Catalogue and Designs furnished. Write
for Catalogue E.



KANSAS CITY WHEEL SCRAPER CO.
MANUFACTURERS OF

**Wheel Scrapers, Grading Plows,
Grading Tools, Etc.**

OFFICE AND FACTORY:

24th Street and Broadway, KANSAS CITY, MO.
MENTION MANUFACTURERS' RECORD.

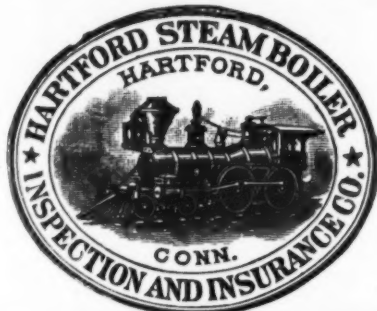
IMPROVED FORT WAYNE
REVERSIBLE ROAD
MACHINE WITH
EXTENSIBLE
AXLE

THE BEST PRACTICAL ROAD
MACHINE ON THE MARKET

AGENTS WANTED

REVERSIBLE
AND
NON-REVERSIBLE
ROAD MACHINES
WHEEL SCRAPERS
PLOWERS
U.S.A.

FLEMING MANUFACTURING CO. FORT WAYNE INDIANA U.S.A.



Issues Policies of Insurance after Careful Inspection of the
Bollers, covering Loss or Damage to Property, and Loss
of Life and Personal Injury Arising from
Steam Boiler Explosions.

Full information concerning the plan of the Company's operations can be obtained at the
COMPANY'S OFFICE, Hartford, Conn., or at any Agency.

M. ALLEN, President.
J. B. PIERCE, Secretary.

W. B. FRANKLIN, Vice-President.
F. B. ALLEN, Second Vice-President.

BOARD OF DIRECTORS:

M. ALLEN, President.
FRANK W. CHENEY, Treas. Cheney Bros. Silk Mfg. Co.
CHARLES M. BEACH, of Beach & Co.
DANIEL PHILLIPS, of Adams Express Company.
MICHAEL W. H. JARVIS, Pres. Colt's Fire Arms Mfg. Co.
THOMAS O. ENDERS, Pres. of the United States Bank.
EVERETT BRAINARD, of The Case, Lockwood & Brainard Co.
JEN. WM. H. FRANKLIN, late Vice-Prest. Colt's Patent
Fire Arms Mfg. Co.
J. O. KIMBALL, Pres. Smith Mfg. Co., Hartford, Conn.
Nelson Hollister, of State Bank, Hartford.
HON. HENRY C. ROBINSON, Attorney-at-Law, Hartford.
HON. FRANCIS B. COOLEY, of the Nat. Exchange Bank
Hartford, Conn.
EDMUND A. STEEDMAN, Treasurer of the Fidelity Co.
Hartford, Conn.
GEORGE BURNHAM, Baldwin Locomotive Works, Phila.
HON. NATHANIEL SHIPMAN, Judge U. S. Circuit Court
PHILIP CORBIN, of P. & F. Corbin, New Britain, Conn.

Maryland Department, Lawford & McKim, Genl. Agts., Rooms 19 & 21 (3d floor) Chamber of Commerce, Baltimore

Look Carefully through this paper and
you may find an advertisement of some
machinery or other goods that you are in
need of. Preserve this copy for future ref-
erence

CASTNER & CURRAN,

General Agents for the

**Celebrated POCAHONTAS
Smokeless Semi-Bituminous COAL.**

MAIN OFFICE:

326 Chestnut St., - PHILADELPHIA, PA.

BRANCH OFFICES:

1 Broadway, New York. 70 Kilby Street, Boston, Mass. 35 Main Street, Norfolk, Va.
Neave Building, Cincinnati, O. Terry Building, Roanoke, Va. Old Colony Building, Chicago, Ill.
Board of Trade Building, Columbus, O. 4 Fenchurch Avenue, London, England.

S. B. ELKINS, President.
H. G. BUXTON, Vice-President.

DAVIS COAL & COKE CO.

SOLE AGENTS FOR THE CELEBRATED

ELK GARDEN BIG VEIN CUMBERLAND COAL.
MINERS and SHIPPERS of the UNEQUALLED "DAVIS" and other SUPERIOR SMITHING and STEAM COALS.

MANUFACTURERS OF COKE—FURNACE, FOUNDRY and CRUSHED.

OFFICES: New York City; Philadelphia, Pa.; Baltimore, Md.; Boston, Mass.; Trenton, N. J.; Wilmington, Del.; Washington, D. C.; Chicago, Ill., and St. Louis, Mo.
Main Office, Piedmont, West Virginia.

TIDE-WATER SHIPMENTS from PHILADELPHIA, BALTIMORE, SOUTH AMBOY and ELIZABETHPORT.

AGENCIES IN EUROPE, SOUTH AMERICA, WEST INDIES AND MEXICO.

F. S. LANDSTREET, General Manager.
F. B. LOTT, Treasurer.

The Cheapest in the World.
The Valley Automatic Engines.
 Send for 32-page descriptive book.
VALLEY IRON WORKS, Williamsport Pa.

CORLISS ENGINES

All Sizes and Styles,
PHILADELPHIA ENGINEERING WORKS, LTD.,
 Philadelphia, Pa.
See our large ad. in first issue each month.

BALL AUTOMATIC
CUT OFF ENGINE
 MADE ONLY
 BY
THE BALL ENGINE CO
 ERIE PA.

SMITH-COURTNEY CO.,
 Richmond, Va.

Southern Agents for the

Improved Bates Corliss Engine

From 50 to 1000 Horse-power.

THE ENGINE for Cotton Mills and Large Factories.

Also full line of Engines, Boilers, Iron and Woodworking Machinery and Pumps. Largest stock of Railroad, Mine and Mill Supplies in the South.

Lombard Iron Works & Supply Company,
 AUGUSTA, GA.
 Builders and Dealers in ENGINES, BOILERS, Tanks, Stacks, Standpipes, etc.; Bridge and Architectural Iron Work; Railroad, Cotton, Saw, Fertilizer, Oil and Ice MACHINERY and Supplies and Repairs; Shafting, Pulleys, Hangers, Leather and Rubber Belting and Hose; MILL SUPPLIES and TOOLS; Foundry, Machine, Boiler and Bridge Work. Capacity for 300 hands.

Birmingham Boiler Works

Builders of Stand Pipes, Tanks, Stacks, Ore, Coal and Coke, Buggies, Lories, Lumber Trucks, Tram Cars. A large stock of new and second-hand Boilers, cheap.

CRELLIN & NALLS, Proprietors,
 Ave. A, Powell ave. and 24th st., Birmingham, Ala.

TOBACCO MACHINERY OF ALL KINDS.

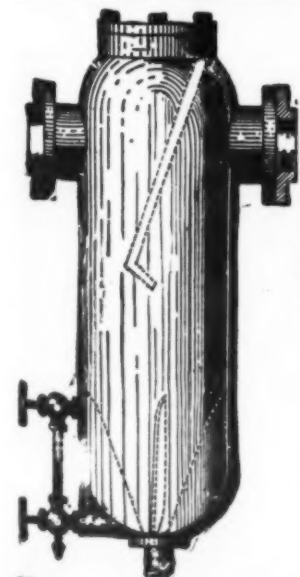
STEAM PUMPS, ENGINES, BOILERS, RETAINERS, BOX SCREWS, ETC.

Elevators for Stores and Factories a Specialty.
Crews & Westbrooks,
 DANVILLE, VA.

IF YOU WANT
Steam Separators and Valves

that will give PERFECT satisfaction, write for Circular.

CULVER MANUFACTURING CO.
 SCRANTON, PA.



KEYSTONE STEAM SEPARATOR.
 For Separating Water and Impurities from Steam in its Passage from Boiler. Flanges interchangeable.

Keystone Engine & Machine Works

W. L. SIMPSON, Prop.
 5th and Buttonwood Streets, PHILADELPHIA, PA.

Manufacturers of
ENGINEERING SPECIALTIES FOR Steam Power.
 Catalogue Free.

Stow Flexible Shaft Co.

Frederic Schell, Prop.
 Twenty-Sixth and Callowhill Sts
 PHILADELPHIA, PA.

FLEXIBLE SHAFTS,

And all kinds of Machines to be used with them. Portable Drilling, Tapping, Reaming and Boring Machines. Also Portable Tools for Emery Wheel Grinding, Metal and Wood Polishing, Cattle Brushing and Clipping, &c.

Builders of
 Special Machines
 for Railroads,
 Bridge & Boiler
 Makers, Contractors,
 &c.

OILLESS BEARINGS.

Metalized Loose Pulley Bushes require no oil or other lubricant, either at the start or occasionally afterwards. Will run perfectly dry for years.

North American Metalizing Co.
 West ave. cor W. 3d st.
 Long Island City, N. Y.

Small Engine Lathes

With or without foot power
 "Built for Business"

ALL KINDS OF MACHINERY BUILT.

J. P. WETHERILL MACHINE CO.,
 Concord Street, CHESTER, PA.

THE JOHNSON Self-Feeding Self-Releasing Tube Expander

A High-Grade Tool that is never driven in nor out. The Bearings are Long, the Motion is Rotary, and the wear is evenly distributed.

DOES BETTER WORK in less time than any other expander made.

2-inch EXPANDER \$12, delivered in U. S.

All sizes in stock for prompt delivery. Write for prices.

The JOHNSON TOOL CO., Wilkes Barre, Pa.

16 TO 1.

SIXTEEN DOLLARS SAVED TO ONE INVESTED

BY USING AN

Acme Oil Filter.

REDEEMS YOUR DRIP OIL.

Pat. July 28th, 1891.

ACME FILTER CO.

200 Biddle Street, ST. LOUIS, MO.

THE

HENRY MARTIN

LATEST IMPROVED

Brick Machine

CAPACITY:

50,000 BRICKS PER DAY.

Send for Catalogue of everything a Brickmaker needs.

The Henry Martin Brick Machine Mfg. Co.

(INCORPORATED.)

LANCASTER, PA., U. S. A.

THE PHILADELPHIA BOURSE.



The Great General Exchange of Philadelphia and Permanent Exhibition of Machinery and Manufactured Goods.

The Philadelphia Bourse is an Exchange, Office and Exhibition Building in the heart of the business section of the city.

Its object is the concentration of Philadelphia trade in one great centre, where importers, manufacturers, bankers, merchandise brokers of all kinds, insurance, railroad and steamship agents, weighers, samplers, inspectors, etc., shall all be directly represented, and where anything and everything manufactured or for sale in the city can be purchased, insured and shipped without going out of the building.

Leading business men of the city meet here daily.

Buyers and visitors from out of the city are always welcome.

All the leading trade and business organizations of the city have their homes in the building.

Every convenience and facility for the transaction of business is to be found here.

Quotations and market reports of the world are furnished by special cable, telegraph and long-distance telephone arrangements.

On the main floor or close to it are Telegraph Offices, Telephones, Railroad Ticket Offices, United States Sub-Postoffices, Restaurant, Barber, Baths, Coat and Package Room.

Visitors can have their mail addressed to the Bourse in care of the Secretary.

Public Stenographers can be had at lowest rates.

Commercial Library with books of reference, directories, government reports, etc.

Reading Room, with all the leading news and trade papers of the country on file, as well as the principal periodicals.

Exhibition rooms, covering 54,000 square feet, contain displays of all classes of manufactured goods, as well as machinery of various kinds, both still and in operation. Direct steam, water, gas and electricity can be furnished for operating exhibits.

The 341 offices in the building are occupied by business firms in almost every line.

The facilities for trade, buying or selling, in the Bourse are unequalled.

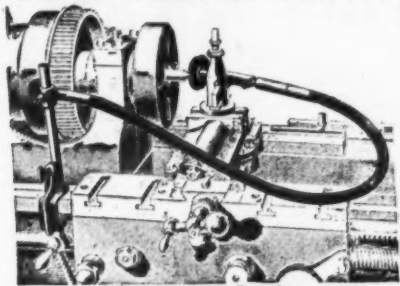
A cordial invitation is extended to all business men to visit Philadelphia and make use of the facilities and conveniences offered.

Correspondence is invited where information is desired relative to the purchase or sale of any class of goods. Our Bureau of information is at the disposal of all business men without charge.

Address

PHILADELPHIA BOURSE,
EMIL P. ALBRECHT, Secretary

STOW MANUFACTURING CO., BINGHAMTON, N. Y.
INVENTORS AND MANUFACTURERS OF THE
STOW FLEXIBLE SHAFT



Cut of Center Grinder.

Headquarters
FOR
ELECTRIC PORTABLE
Watchman's Clocks.

Lowest Prices.
Latest Improvements.
Patents 1886-1893.

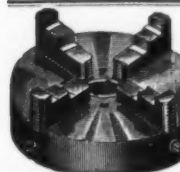
SEND FOR CIRCULAR.

E. O. HAUSBURG, 41 Maiden Lane, New York City.

THE ALERT.



Price,
Complete
\$10.00



SKINNER CHUCKS

Independent and Universal Chucks, Combination Lathe Chucks with patent reversible jaws, Drill Chucks, Planer Chucks and Face Plate Jaws.

SKINNER CHUCK CO.

SEND FOR CATALOGUE.

NEW BRITAIN, CONN.

PATAPSCO RUBBER CO.

Rubber Goods of Every Description.

BALTIMORE, MD.

SELLING AGENTS FOR

GOODYEAR'S I. R. GLOVE MFG. CO., OF NEW YORK,
Celebrated Line of Rubber Boots and Shoes.
NEW YORK BELTING AND PACKING CO., LIMITED,
First Quality Mechanical Rubber Goods.

COLUMBIA RUBBER WORKS CO.

Druggists' and Stationers' Rubber Sundries.
IF IT IS MADE OF RUBBER you can get it from us.

SOUTHERN AGENCY,

Boston Rubber Company's Bell Brand Mackintoshes.

.. HIGH-GRADE ..

RUBBER GOODS

Our name and
brand a
guarantee of
quality.

BELTING,
PACKING,
TUBING,
SPRINGS,
VALVES,
GASKETS,
FLATS and
FATTING,
RUBBER-
LINED
LINEN and
COTTON
HOSE.



SEND FOR SAMPLES, ETC.

N. J. CAR SPRING & RUBBER CO.
Jersey City, N. J.

LEVIATHAN Belting



Is the Strongest, Runs
the Most Evenly and
Best adapted for Cot-
ton, Woolen, Saw and
Planing Mills, Brick
and Tile Works and

HEAVY DRIVING
GENERALLY.

MAIN
BELTING
CO.

1219-1235 Carpenter St.
PHILADELPHIA.

120 Pearl Street, Boston.
248 Randolph Street,
CHICAGO.

Phosphate
AND
Gravel Screens



BRONZE SCREEN PLATES
To withstand action of
ACIDULATED WATERS.

METALS PERFORATED as Required for MINING SCREENS of all kinds.

FOR USE IN

MILLING AND MINING MACHINERY,
REDUCTION AND CONCENTRATING WORKS,
WOOLLEN, COTTON, PAPER AND PULP MILLS,
RICE, FLOUR AND COTTONSEED OIL MILLS,
STANDARD SIZES PERFORATED TIN AND BRASS ALWAYS IN STOCK. SPECIAL SIZES FOR PHOSPHATE SCREENS.

SUGAR AND MALT HOUSES,
DISTILLERIES, FILTER PRESSES,
STONE, COAL AND ORE SCREENS,
STAMP BATTERY SCREENS,

BRICK AND TILE WORKS, FILTERS,
SPARK ARRESTERS, GAS AND WATER WORKS,
OIL, GAS AND VAPOR STOVES,
COFFEE MACHINERY, ETC., ETC.

Main Office and Works, 234 to 236 N. Union St., Chicago, Ill., U.S.A.

Eastern Office, No. 284 Pearl Street, New York.

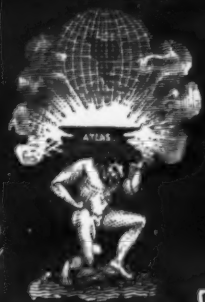
OUR HIGH EXPLOSIVES ARE STANDARD AND GUARANTEED UNIFORM

REPAUND CHEMICAL COMPANY

ATLAS AND JUDSON POWDERS

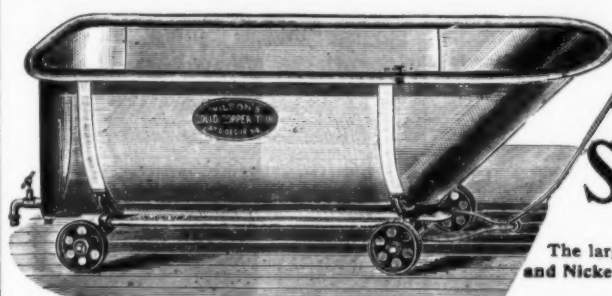
REPAUND GELATINE

A FUMELESS EXPLOSIVE FOR TUNNEL WORK



BRANCH OFFICES
BOSTON 13 BROAD ST.
ATLANTA 13 BROAD ST.
ST. LOUIS 13 BROAD ST.
JOPLIN 13 BROAD ST.
DENVER 13 BROAD ST.
NEW YORK 13 BROAD ST.
CHICAGO 13 BROAD ST.
CLEVELAND 13 BROAD ST.
CINCINNATI 13 BROAD ST.

GENERAL OFFICES WILMINGTON DELAWARE U.S.A.



No Iron or Steel to Rust. No Enamel to Chip.
No Copper to Get Loose or Crack. No Asbestos or Paper.

R. M. WILSON'S

Solid Copper Bath Tub

CAN NOT DRAW VERDGRIS.

The largest manufacturer in the world of Copper-Lined Bath Tubs, Copper Range and Nickel-Plated Boilers, Closet Seats and Tanks, and Plumbers' Brass Work.

WRITE FOR CATALOGUE.

New York Office, 92 Walker Street.

Factory and Warehouse, Rome, N. Y.

AKRON

is strongest

wears Longest

"AKRON"

BELTING

For COTTON MILLS

SIXTEEN NEW SOUTHERN MILLS
HAVE RECENTLY ADOPTED IT.

This belting is guaranteed for the most exacting
service. If found defective, either material or
workmanship, will be replaced free. Write for
prices. Circulars free, showing "up-to-date"
methods for the engine room.

THE AKRON BELTING CO. Nos. 138-142 N. Main Street, Akron, Ohio, U. S. A.

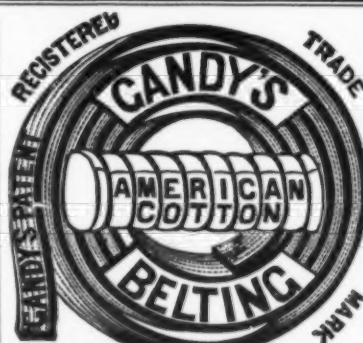
PATENTED
MAY 18TH, 1894.

The "Swinging Hose Rack,"

PATENTED & MANUFACTURED
JNO. C. N. GIBBERT,
Room 107 Taylor Bldg., 39 Cortland Street,
NEW YORK.
Send for Catalogue.

SPECIALTIES IN
IRON.
Wrightsville Hardware Co.
Cabinet and
Builders' Hardware.
Wrightsville,
Penn.

FOR INFORMATION ABOUT
U. S. MAIL CHUTES
WHICH ARE
A NECESSITY IN OFFICE BUILDINGS AND HOTELS.
Write to the sole makers,
THE CUTLER MFG. CO., Rochester, N. Y.
PATENTED. AUTHORIZED.



The "Original Candy"

Sewed Cotton Duck Belting.

Especially adapted for Main Drivers, Saw
Mills, Cotton Gins, Cotton Presses, and for
all places where belts are subjected to mois-
ture or atmospheric changes, the "GANDY"
stands paramount.

For further information, prices, etc., write
The Candy Belting Co.
BALTIMORE, MD.

Virginia is Shipping Bricks to New York!

The POWHATAN CLAY MFG. CO., OF RICHMOND, VA.,
are supplying the CREAM WHITE BRICKS for the Siegel-Cooper
Building, on Sixth avenue 18th and 19th streets, and for other buildings in New
York City; also for the Mutual Life Office Building, on Chestnut street, Philadelphia.
That palatial hotel, "The Jefferson," Richmond, Va., is faced with One Million of
these famous bricks. The Company's New York office is in the Mohawk Building,
160 Fifth Avenue.

Pure Oak Tanned

STRICTLY SHORT LAP



Leather Belting

MANUFACTURED BY THE

CHARLES MUNSON BELTING COMPANY,

HOME OFFICE AND FACTORY:

36 South Canal Street, Chicago, Ill

BRANCH STORE AND FACTORY:

313 St. Charles St., New Orleans, La.

Our belting has stood the test of all climates successfully for more than a quarter of a century, and our EAGLE BRAND, like the NATIONAL BIRD, is universally acknowledged to be KING over all competitors. It is guaranteed to last longer and give better satisfaction than any other make.

Our New Orleans factory is by far the best equipped in the Southern States, and all repair work will be promptly executed.

We also manufacture the best cement and belt dressing on the market. Give us a trial and be convinced.

Prices and discounts quoted, and estimates promptly made on application.

W. C. GROETZINGER,
General Manager.

SHULTZ PATENT SABLE RAWHIDE BELTING.

GENUINE RAWHIDE
LAGE LEATHER.
SHULTZ'S PATENT
PULLEY COVER.
BELT DRESSING
AND
BELT CEMENT.

SHULTZ PATENT
WOVEN LEATHER LINK BELTING.

DYNAMO BELTING.

St. Louis, Mo. U.S.A.

MECHANICAL RUBBER GOODS

BELTING, HOSE, PACKING,
FIRE HOSE, GASKETS, VALVES,
RUBBER COVERED ROLLERS.

SATISFACTORY IN QUALITY AND PRICE.

Manufactured by

BOSTON BELTING CO.

JAMES BENNETT FORSYTH,
Mfg. Agent and Gen. Mgr.

256-258-260 Devonshire St., Boston.

100 and 102 Reade St., New York.

JEWELL BELTING CO.

TANNERS OF

Oak Belting Leather

MANUFACTURERS OF

SHORT LAP OAK BELTING

MAIN OFFICE,

HARTFORD, CONN.

JELICO TANNERY,

JELICO, TENN.

ROME TANNERY,

ROME, GA.

The Best the Cheapest

CHAS. A. SCHIEREN & CO.

Tanners

Manufacturers

Oak...

Bark

Leather.



Tanned

Belting.

NEW YORK.

BOSTON.

CHICAGO.

PHILADELPHIA.

TANNERIES AT BRISTOL, TENN.

BELTING HOSE PACKING MILL SUPPLIES

Rubber, "Hoyt" Leather and Gandy Cotton.
Cotton Mill Belting a Specialty.

Rubber, Water, Steam and Suction.
Cotton, Rubber Lined. Plain Linen.

GENUINE RAINBOW AND PEERLESS.

Eclipse Gaskets, Metallo, Jenkins' Sheet.
Pure Gum, Flax, Square and Round Tucks, Cloth Insertion.
Pump Valves, Pure Gum Rings, Hydraulic Leather.
Babbit Metal, Lace Leather, Belt Hooks etc.

ALSO SADDLERY, COLLARS, BICYCLES.

WHITNEY & SLOO CO., Limited,

108-112 N. Peters St. Opposite Custom House, River Side, NEW ORLEANS, LA.



"Chesapeake"

STITCHED CANVAS

BELTING

Specially suited and the BEST BELT
in the world for Saw Mill use.

Fully Guaranteed in Every Respect.

Write for Prices, Samples, etc.

THE CHESAPEAKE BELTING CO., Baltimore, Md.

QUEEN CITY SUPPLY CO.

Puchta, Pund & Co.
PROPRIETORS.

Nos. 161, 163 and 165

West Pearl Street,

CINCINNATI, OHIO.

DEALERS IN Factory, Machine Shop
and Mill Supplies.

Agent for B. F. Sturtevant Co., Blowers and Exhausts; Boston Belting Co., Rubber Goods of all
kinds; Jewell Belting Co., Leather Belt; Jno. A. Roebblings' Sons, Wire Rope; Grant Crundum
Wheel Co. Emery Wheels; Magnolia Metal Co., Magnolia Babbitt Metal.

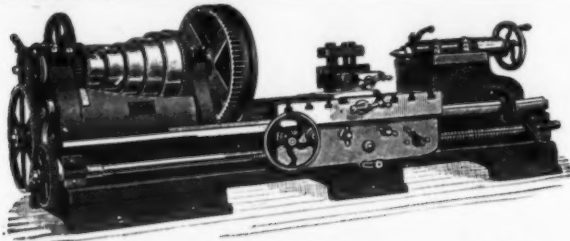
BELTING.....PURE OAK BARK TANNED

A FULL LINE OF SOLID AND TWIST ROUND BELTING. ESTABLISHED 1842.

See Our Last Week's Ad.

I. B. WILLIAMS & SONS, DOVER, N. H.

CHICAGO, 205 Lake Street.



ENGINE

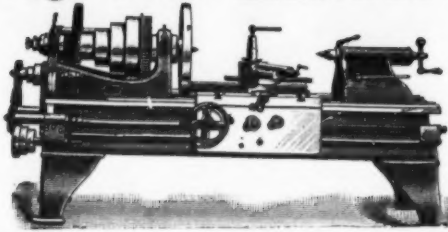
Two acres devoted
entirely to the
manufacture of
ENGINE LATHES.

LATHES.

Engine Lathes from 17 to 64 in. swing a
Specialty.
Photographs, Cuts, Descriptions and Prices
on application.

Fifield Tool Co. LOWELL, MASS.

High-Class ENGINE LATHES.



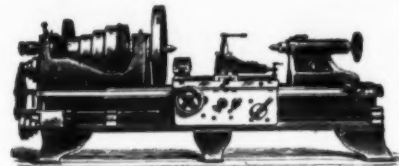
PATENTED.
With NEW and VALUABLE FEATURES.

Made only by
THE BRADFORD MILL CO.
CINCINNATI, OHIO, U. S. A.

London House:
CHAS. CHURCHILL & Co., Ltd., 21 Cross St.,
Finsbury, London, E. C., Eng.
New York:
GARVIN MACHINE CO., Canal & Laight Streets.

HAND
TURRET
SCREW-CUTTING

LATHES and PLANERS



ARE MANUFACTURED BY

Draper Machine Tool Co.

Worcester, Mass., U. S. A.

THOS. K. CAREY & BROS. CO., BALTIMORE, MD., Agents.

CORRESPONDENCE SOLICITED.

Springfield Machine Tool Co.

Springfield, Ohio.

12 in. Crank Shapers, Power Presses, "Springfield Muller" 18 in.
15 in. Univ. Monitor Lathes, Arbor Presses, Engine Lathe
20 in. Hand Fox Lathes, Bench Straightening Press.



FOOT POWER LATHES

For Electrical and Experimental Work.

For Blacksmiths, Gunsmiths and Tool Makers.

For General Machine Shop Work.

High Grade Tools; Elegant in Design; Superior in Construction. The Best

Foot Power Lathes made, and quality considered, the cheapest.

Send for Catalogue and Prices.

W. F. & JOHN BARNES CO., 221 Ruby St., Rockford, Ill.

METAL SAWS. SAVE MONEY FOR ALL PURPOSES. CHICAGO ILL. SEND FOR CATALOGUE.

THE Q&C

PORTABLE RAIL SAWS

Automatic Feed Shop Saws

COLD CUT OFF MACHINES

D. SAUNDERS' SONS

MANUFACTURERS OF

Pipe Cutting and Threading
MACHINES

For Pipe Mill and Steam Fitters' Use.

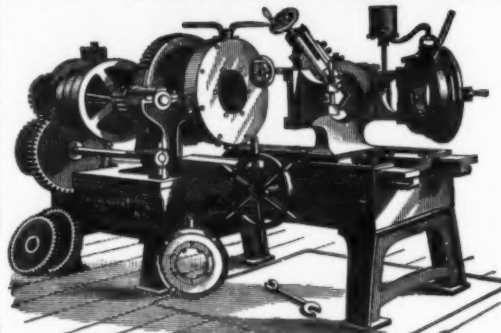
TAPPING MACHINES

For Steam Fitting. Also,

Steam & Gas Fitters' Hand Tools,
31 Atherton St.

Send for Catalogue B.

YONKERS, N. Y.



SEND FOR CIRCULARS.

Machine Shop

and Blacksmith

Equipments

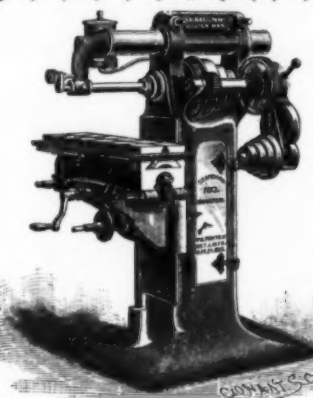
A SPECIALTY.

Engine Lathes, Chucks, Drill Presses, Shaping Machines, Power Hammers,
Bolt and Nut Machinery, Portable Forges, &c. Pressure Blowers
and Emery Grinding Machinery.

Send for Catalogue of Machine Tools, stating exactly what is required, so
that prices may be quoted. Delivered your station if so desired.

W. E. DREW,
AGENT.

S. C. FORSAITH MACHINE CO. MACHINISTS AND GENERAL MACHINERY DEALERS. MANCHESTER, N. H.



No. 3.—Showing Brainard's New Quick
Return Movement for Work Table.

**HILL,
CLARKE
& CO.**

MACHINE
SHOP
TOOLS.
—
IRON
WORKING
MACHINERY

156 Oliver Street,
BOSTON.

14 S. Canal Street,
CHICAGO.

IN CONSTANT
PROCESS OF
DEVELOPMENT.

SELLING AGENTS FOR
**Brainard's
Universal
Milling
Machine.**

Thirty Years' Active Use Has Proved
Its Great Merit.

With Important Improvements.



STAMP SHOES.



STAMP DIES.

Adamantine SHOES and DIES

AND CHROME CAST STEEL,

Cams, Tappets, Bosses, Roll Shells and Crusher Plates.

These castings are extensively used in all the Mining States and
Territories of North and South America. Guaranteed to prove
better and cheaper than any others. Orders solicited subject to
above conditions. When ordering send sketch with exact dimen-
sions. Send for illustrated circular.

CHROME STEEL WORKS, Kent Ave., Keap and Hooper Sts., BROOKLYN, N. Y.

DAMASCUS BRONZE CO.

PITTSBURG, PA.

GUARANTEED NOT TO CUT THE JOURNAL.

PHOSPHOR BRONZE AND BABBITT METALS IN ALL GRADES.

GEO. A. McLEAN, Prop. & Treas.

EQUAL TO ANY MADE IN THE WORLD.

DAMASCUS BRONZE,

UNEQUALLED FOR

LOCOMOTIVE, CAR AND MARINE

BEARINGS.

ALL METALS



GLOBE BRAND

Richmond Locomotive & Machine Works, Richmond, VA.

ESTABLISHED IN 1868.

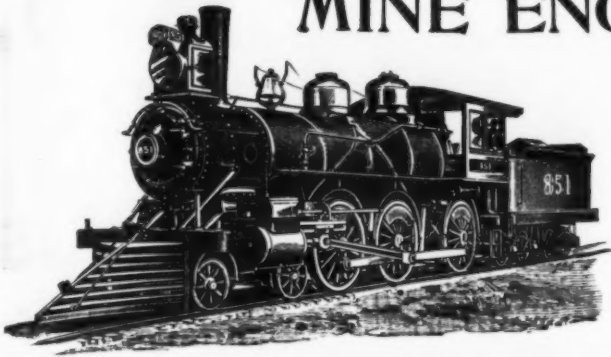
Builders of

MINE ENGINES.

LOCOMOTIVES

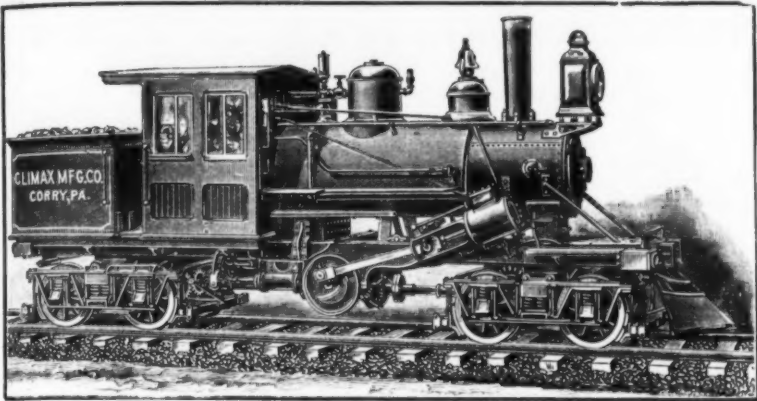
for every variety of service.

To Standard Designs or to meet the views of Purchasers.



MOTORS FOR STREET OR SUBURBAN TRAFFIC.

CORRESPONDENCE SOLICITED.



Tramway Locomotives and Cars

For Steel, Iron, Wood or Pole Road.

Weight of Locomotives from eight to thirty-five tons. Every wheel a driver. Adapted for steep grades, sharp curves and uneven track. CATALOGUES FREE.

CLIMAX MFG CO., BUILDERS, CORRY, PA.

BALDWIN LOCOMOTIVE WORKS.

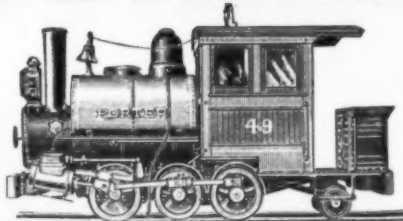


SINGLE EXPANSION and COMPOUND LOCOMOTIVES

Adapted to every variety of service and built accurately to standard gauges and templates. Locomotives for Logging Railroads and Sugar Estates. Electrical Locomotives, Steam Tramway Motors, Mine Locomotives, Furnace Locomotives.

BURNHAM, WILLIAMS & CO., Philadelphia, Pa.

H. K. PORTER & CO., PITTSBURGH, PA.



Builders of LIGHT LOCOMOTIVES of all designs and sizes and for all gauges of track; including NOISELESS STEAM MOTORS and COMPRESSED AIR MINE LOCOMOTIVES and ELECTRIC LOCOMOTIVES.

SPECIAL OFFER.—On bona fide application 150 page illustrated pamphlet of interest and value to anyone connected with mining or logging or railroads will be mailed free. Inquiry should be addressed to H. K. PORTER & CO., 6th Avenue, Pittsburgh, Pa.

CASTINGS

ROLLING MILL and BLAST FURNACE.

Capacity

1 oz. to 60,000 lbs.

RIPPEL MFG. CO., FOUNDRY AND MACHINE WORKS, Mt. Gilead, Ohio.

STEEL CASTINGS

FROM 1 TO 40,000 POUNDS WEIGHT Of Open Hearth, Chester or Bessemer Steel. True to Pattern, Sound, Solid.

Gearing of all Kinds, Crank Shafts, Knuckles for Car Couplers. Cross Heads, Rockers, Piston Heads, etc., for Locomotives.

STEEL CASTINGS OF EVERY DESCRIPTION.

CHESTER STEEL CASTINGS CO.

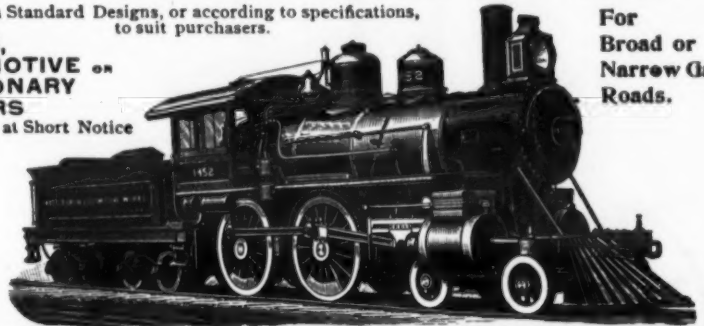
Works, Chester, Pa. Office, 407 Library St., Phila., Pa.

COMPOUND AND SIMPLE LOCOMOTIVE ENGINES

From Standard Designs, or according to specifications, to suit purchasers.

TANKS, LOCOMOTIVE or STATIONARY BOILERS
Furnished at Short Notice

For Broad or Narrow Gauge Roads.



PITTSBURGH LOCOMOTIVE WORKS, PITTSBURGH, PA.

WILSON MILLER, PR. & TYS.

D. A. WIGHTMAN, G. M.

PA.

Purchasers of

Tank and Cooper Rivets

Do Not Be Deceived by a

"Norway" Rivet

MADE OF STEEL.

HOOPE & TOWNSEND,

PHILADELPHIA, PA.



HENRY B. PANCOAST & CO.

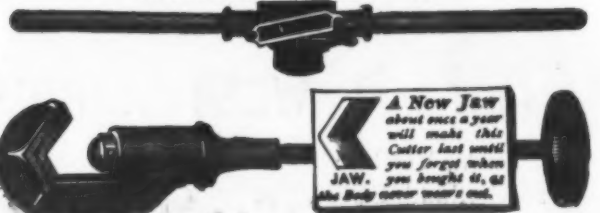
SUCCESSORS TO

PANCOAST & MAULE, PHILADELPHIA, PA.

MANUFACTURERS AND DEALERS IN

WROUGHT-IRON PIPE AND FITTINGS, BRASS WORK AND TOOLS, BRASS AND IRON RAILING FITTINGS, "AMERICAN" SELF-PACKED UNIONS, "SKELETON" STOCKS AND DIES, STEAM GLUE HEATERS, STEAM RADIATORS AND COILS.

SEND FOR CATALOGUE.



COMPLETE
EQUIPMENT OF **Blast Furnaces,
Rolling Mills and Steel Works.**

IRON,
STEEL
AND BRASS
CASTINGS.

STRUCTURAL DEPARTMENT:
Bridges, Roofs, Buildings, Trestles.

STEAM AND HYDRAULIC PRESSES,

Stationary and Marine

ENGINES

Simple and Multiple Expansion,
for Mills, Factories and Electric Plants.

Corliss Engines.

SPECIAL MACHINERY

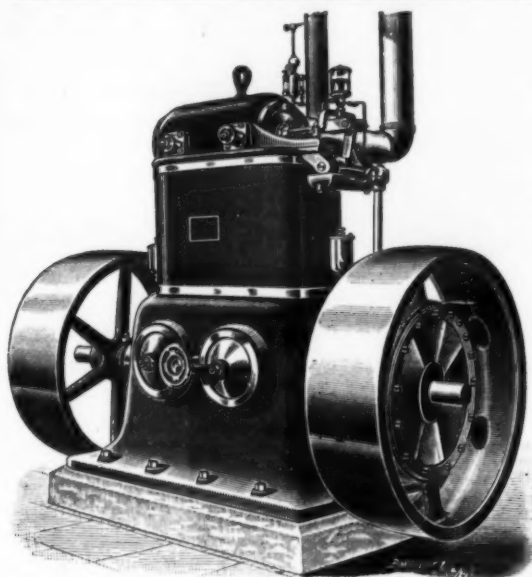
Built from designs furnished
or to meet stated requirements.

Stationary and Marine

BOILERS

Tanks, Standpipes and Smokestacks.

MARYLAND STEEL COMPANY, Engineers, Founders and Machinists,
Main Office and Works: **SPARROWS POINT, MD.**
2 WALL STREET, NEW YORK. 8 OLIVER STREET, BOSTON.
208 SOUTH FOURTH STREET, PHILADELPHIA.



NON-CONDENSING COMPOUND ENGINES.

In perhaps over 90 per cent. of the steam plants in operation in this country, water for condensing purposes is not available; consequently any improvement in the economic performance of non-condensing engines is of peculiar value.

The Westinghouse Automatic Compound Engine is the only compound engine built, which, when running non-condensing, shows any marked economy over a simple engine, especially when operating under widely fluctuating loads.

It will run equally well condensing or non-condensing without requiring any alteration in the valve adjustments.

It is the only compound engine that will run at all under back pressures up to twelve pounds.

The Westinghouse Compound Engine, running non-condensing, consumes from 23 to 24½ pounds of steam per indicated H. P. every hour, depending on size of engine and steam pressure. The economy is practically constant from half load up to full load, and even under the lightest loads remains surprisingly near the above mentioned figures.

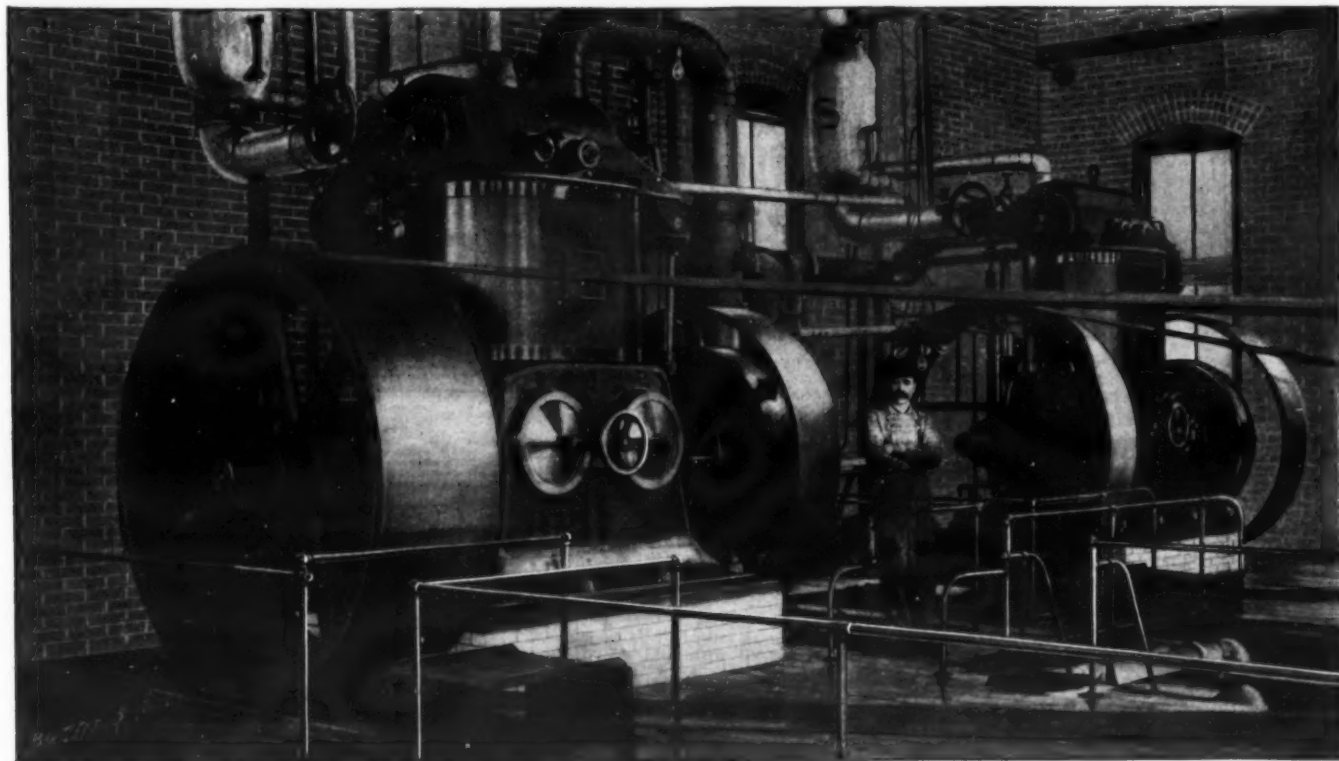
We do not know what amount of steam other non-condensing compound engines use per horse-power per hour. We don't know anyone who does know. Such information is hard to get.

We offer the conveniences of a well-appointed testing-room to any customer, or any engineer, that he may delegate for that purpose, that he may satisfy himself as to the economy of the engine before it is shipped.

Make your engine specifications call for fulfillment of economy guarantees before the engine is shipped and installed, and we will get your business without any competition.

Send for little books on "Testing" and "Economy Guarantees."

THE WESTINGHOUSE MACHINE COMPANY, Pittsburg, Pa., U. S. A.



Notwithstanding the extensive application of **WESTINGHOUSE ENGINES** to dynamos by direct connection, we wish it known that we also continue to furnish such engines for the usual belted connection, in all sizes. We also contract to build Power Houses entire. The above cut illustrates a pair of our 350 H. P. Compound Condensing Engines at the Power House of the Saginaw Consolidated Street Railway, Saginaw, Mich. The exhausts are fitted with automatic valves to cut the condenser in or out on either engine without interruption of service. Separators on the steam pipes are connected to the boilers by **STEAM LOOPS**, giving dry steam to start and keeping it dry all the time.

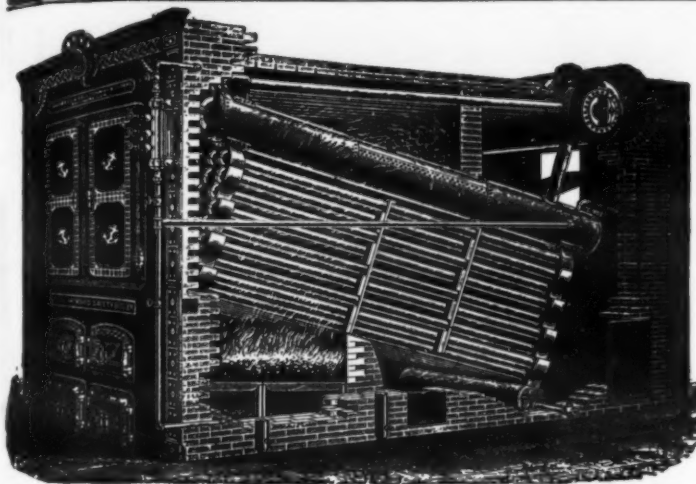
WESTINGHOUSE, CHURCH, KERR & CO., Engineers.

NEW YORK:
26 Cortlandt Street.

BOSTON:
53 State Street.

PITTSBURG:
Westinghouse Building.

CHICAGO:
171 La Salle Street.



The Zell Improved Water-Tube Safety Boiler.
CAMPBELL & ZELL CO., Manufacturers, Baltimore, Md.

Economy of
Operation,
Safety and
Greatest
Efficiency.
Write for
Book
"How to
Generate
Steam
Economically."

HAVE YOU READ OF THE WONDERFUL DREDGE BOAT "BETA"

THAT PROMISES TO REVOLUTIONIZE MODERN
METHODS OF TRANSPORTATION AND MAKE
GREAT HIGHWAYS OF OUR SOUTHERN RIVERS?
SEE THE "RECORD" OF MAY 22nd.

USES HEINE BOILERS, OF COURSE—1500 H. P.
BUT THAT'S ANOTHER STORY.

SOUTHERN OFFICE,
ATLANTA, GA.
FRANK LEDERLE, M. E.
GOULD BUILDING.

HEINE SAFETY BOILER CO.
421 Olive Street,
ST. LOUIS, MO.

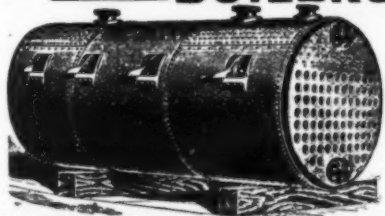
THE MORRIN "CLIMAX" Water Tube BOILER

JOSEPH R. WILSON,
Sole Agent for
Pennsylvania, Maryland, Delaware and New Jersey.
Mutual Life Building, PHILADELPHIA.

ENTERPRISE BOILER CO., Youngstown, O.

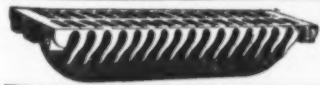
Stand Pipes, Tanks, Large Draught Stacks, Boilers, Blast Furnaces and Heavy
Plate Work a Specialty. Write for Estimates.

HIGH-GRADE BOILERS



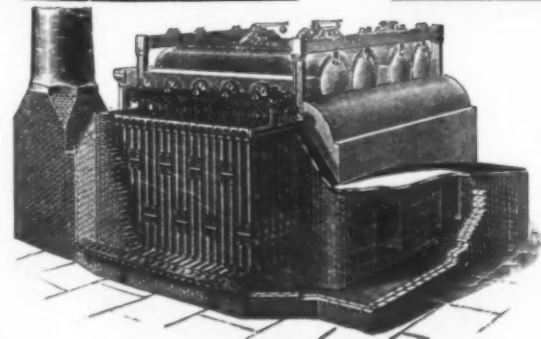
E. KEELER CO., WILLIAMSPORT, PA.

McCLAVE'S These appliances combine valuable features for burning the smaller sizes of hard and soft coal, such as Anthracite, Culm, Birdseye, Buckwheat and Bituminous Slack, while the Grate alone stands unequalled for burning the larger sizes of these fuels with natural draught. The Argand Blower gives EXCELLENT RESULTS in burning Spent Tan, Sawdust, Bagasse, For Boiler and etc. For full particulars send for other Furnaces. Illustrated Descriptive Catalogue C.
McCLAVE, BROOKS & CO., Scranton, Pa.



BING'S GRATE BAR FOR ALL KINDS OF FUEL.
WRITE FOR PRICES.
J. Howard Bing, 3737-41 Filbert St., Phila., Pa.

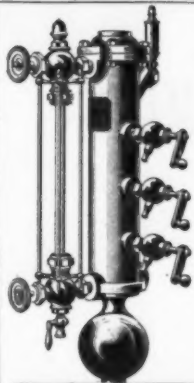
GREEN'S - ECONOMIZER



For Steam Boilers.

SAVES 10% to
20% in FUEL.

FUEL ECONOMIZER CO.
Main office & Works,
MATTEAWAN, N. Y.



HAVE YOU HAD BURNED BOILERS or BOILER EXPLOSIONS?

If so, you realize that they are expensive as well as undesirable.

THE RELIANCE COLUMNS MINIMIZE THE DANGER

These appliances do NOT keep the feed pump running, but they do keep the fireman at his post and make him careful.

Every Column Warranted. Correspondence Solicited.

THE RELIANCE GAUGE CO.

Sole Manufacturers,

96 to 106 East Prospect St., CLEVELAND, OHIO.

BOSTON, MASS. 8 OLIVER ST. CHICAGO, ILL. 910 MASONIC TEMPLE CINCINNATI, O. 906 N. E. AVE. BLDG. PITTSBURGH, PA. CARNEGIE BLDG.
BABCOCK & WILCOX BOILERS
THE BABCOCK & WILCOX CO.
29 CORTLANDT ST. NEW YORK.
SEND FOR BOOK ON STEAM.
NEW ORLEANS, LA. 539 CANAL ST. SAN FRANCISCO, CAL. 32 FIRST ST. ATLANTA, GA. 88 EQUITABLE BLDG.

AWARDED THE GRAND PRIZE AT LATE PARIS EXPOSITION.

A FEW FEATURES IN THE HOGAN WATER TUBE BOILERS

Which make EVIDENT their SUPERIORITY when compared with ALL OTHER BOILERS.

NO SCALE accumulates on the HEATING SURFACES.

DRUMS not exposed to the heat COLLECT all SEDIMENT.

Each STEAMING TUBE discharges directly INTO STEAM SPACE.

Each water CIRCULATING TUBE discharges DOWNWARD into the DISTRIBUTING DRUMS, where PRECIPITATION of the impurities TAKES PLACE.

WATER FLOWS into the heating tubes as rapidly AS STEAM is produced in them and ESCAPES from them.

Tubes CANNOT BURN because the WATER CANNOT be forced out of them BY the production of STEAM and NO HARD SCALE deposits IN THESE TUBES.

Steaming TUBES are OVER the FIRE and are exposed to the DIRECT ACTION of the heat of the FIRE and of the GASES.

The water CIRCULATING TUBES are not exposed to the heat so as to secure DOWNWARD CURRENTS.

STEAM can be raised IN TWENTY MINUTES without injury to any part.

Send for "BOILER REVIEW," "TRUTHS AND PROOFS."

HOGAN BOILER COMPANY,
MIDDLETOWN, N. Y., U. S. A.

BOILERS

With Rivet Holes Drilled After Plates are Bent and in Position, Tanks and Sheet Iron Work, Engines, Cotton Gins and Presses, Machinery for Fertilizer Works and Phosphate Washers, &c.

VALK & MURDOCH IRON WORKS, Charleston, S. C.

PATENTED.

UNITED STATES:
August 9, 1892.
Nov. 22, 1892.
April 4, 1893.
April 19, 1895.
GREAT BRITAIN:
No. 14,402.
FRANCE:
No. 223,567.
GERMANY:
No. 69,083.
BELGIUM:
No. 100,187.
CANADA:
No. 40,995.

The Wilkinson Manufacturing Co., Inc.
ENGINEERS AND CONTRACTORS,
MANUFACTURERS OF

WILKINSON MECHANICAL STOKER,
(AUTOMATIC IN ALL ITS FUNCTIONS.)

Complete Combustion Assured. No Fire Doors. No Hand Firing.
The only Fire Grate successfully burning all grades Anthracite and Bituminous fuels. Steam Pressure and Furnace Temperature not dependent on Chimney Draft. A High Duty Grate. Simple, Economical, Efficient. Adapted to Steam Generators, Furnaces, etc.
For Catalogue or information, address

Office & Works, Bridgeport, Montgomery Co., Pa.
Designing and Remodeling entire Steam Plants a Specialty.

N. W. TAYLOR.

H. H. CAMPBELL.

BRIGHTMAN FURNACE CO.

648 Broadway, CLEVELAND, Ohio,

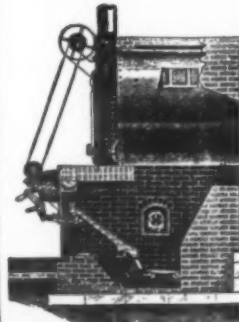
SOLE MANUFACTURERS OF THE

Brightman Mechanical STOKER

FOR STEAM BOILERS.

THE MOST ECONOMICAL IN FUEL
and the Best Device in the World for Preventing Smoke.

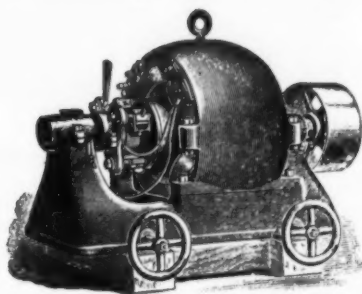
Send for Catalogue "A."



American--Ball Engine.

The result of twenty-five years' experience with four thousand engines, designed and built by Mr. Frank H. Ball. The latest development in practical Steam Engineering. New features, improved design and finish, but the same old Valve that has saved thousands of tons of coal in the last quarter of a century, and is the only form of Valve used in Single Valve Automatics that follows its own wear, and never leaks. We also build a full line of

Multipolar Dynamos and Motors.



And our New SIX-POLE GENERATORS are adapted to our AMERICAN-BALL ENGINE, making complete and symmetrical generating units.

AMERICAN ENGINE COMPANY,

BOUND BROOK, N. J.

ENGINES ESTABLISHED 1851 **BOILERS**

ALL KINDS OF IRON TANKS & SMOKE STACKS BUILT IN ANY PART OF THE COUNTRY

STRUTHERS WELLS & CO.

ALL CLASSES OF STATIONARY AND PORTABLE BOILERS FROM STOCK OR FROM SPECIFICATIONS

WARREN, PENNA.

STANDPIPES CORRESPONDENCE SOLICITED **TANKS**

THE MASON TEAM SPECIALTIES

WORKMANSHIP THE BEST.

ACCURACY GUARANTEED.

THE MASON REGULATOR CO., Boston, Mass.

ENGINES, BOILERS. SAW MILLS. PRESSES.

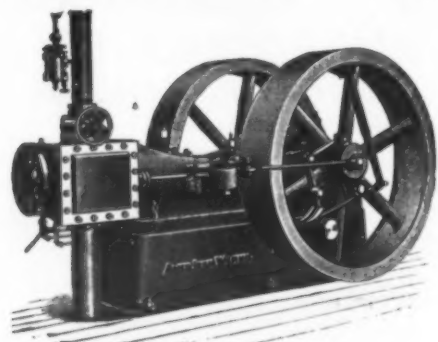
Write to

GENERAL MANUFACTURERS OF

MECKLENBURG IRON WORKS, Charlotte, N. C.

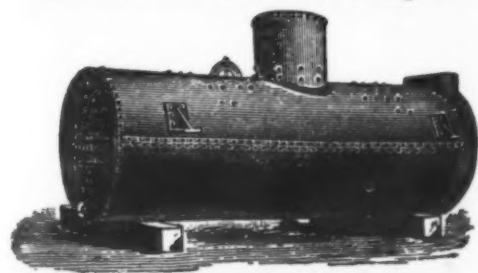
MACHINERY

AMES · ENGINES · AND · BOILERS.



THROTTLING ENGINES.
AUTOMATIC ENGINES.
ALL TYPES OF BOILERS.

AMES IRON WORKS,



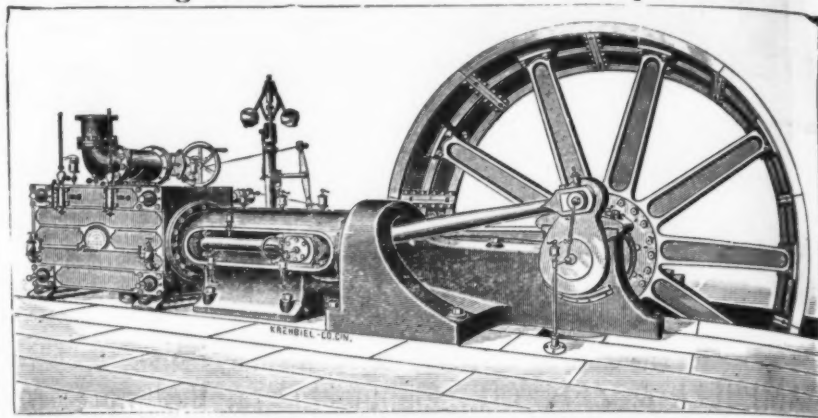
OSWEGO, N. Y.

The HOOVEN, OWENS & RENTSCHLER CO., Hamilton, O.

Hamilton Corliss Engines.

Send for Catalogue H.

Engines of all Sizes and for all Purposes.

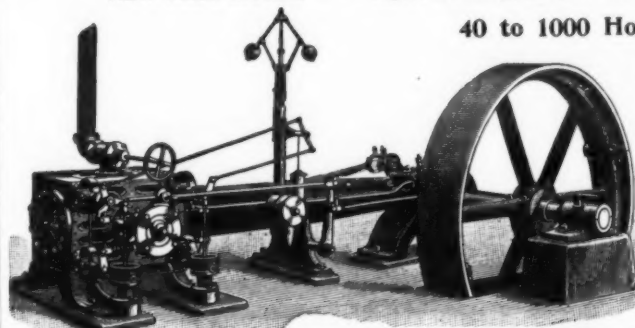


ECLIPSE CORLISS ENGINES. FRICK COMPANY, Engineers, Builders,

WAYNESBORO, PA.

NEW YORK OFFICE, - Taylor Building, 39-41 CORTLANDT STREET,

40 to 1000 Horse-Power Made.



Condensing,
Non-Condensing
and Compound.

Send for Corliss Circular.

Ice-Making and
Refrigerating
Machinery.

Send for Ice-Machine Circular.

SPECIAL HIGH-SPEED AUTOMATIC ENGINES, STEAM BOILERS,
TRACTION and PORTABLE ENGINES, SAW MILLS.

Send for our General Catalogue.

Maryland Mfg. & Construction Co.

336 to 346 North Street, BALTIMORE, MD.

Electrical Machinery
and Construction.

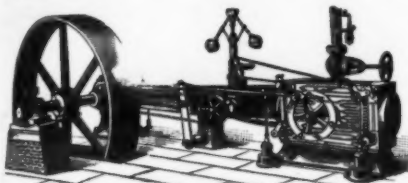
.. COMPLETE STEAM PLANTS ..

BOILERS, ENGINES,
DYNAMOS.

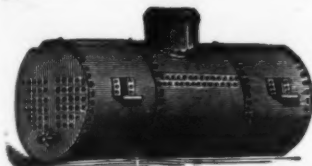
CANNING HOUSE
MACHINERY.

Manufacturers of the "SUBURBAN," "POSTAL" and "DRUID" Bicycles.
Send for Catalogues.

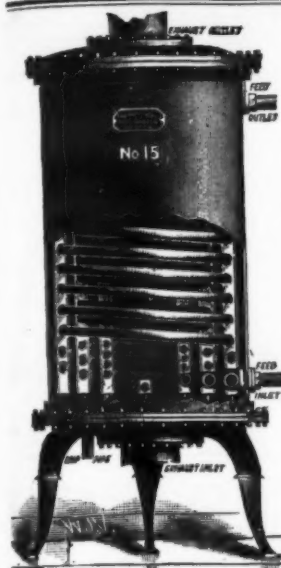
NEWBURGH ICE MACHINE & ENGINE CO.



SUCCESSORS TO
Whitehill Engine & Pictet Ice Machine Co.
Office and Works, NEWBURGH, N. Y.
New York Office, 44 Taylor Building,
39-41 Cortlandt Street.
Whitehill Corliss Engines,
SIMPLE, COMPOUND AND CONDENSING
ICE AND REFRIGERATING MACHINERY.
IRON AND BRASS CASTINGS.



The Tudor Boiler Manufacturing Co.
Steam Boiler and Tank Makers
Office, 246 E. Pearl St. (opp Pittsburg. Clin. & St. L. R.) Cincinnati, O.
SECOND-HAND BOILERS ALWAYS ON HAND.



THE NATIONAL FEED WATER HEATER

Delivers Water to the Boilers
.. at ..
212° F.
We also make
COILS AND BENDS
of IRON, BRASS and COPPER PIPE.
Hundreds of our Heaters show a record of 210 to 212 Degrees F.

700,000 H. P.
in Daily use is the best proof of its Superiority.

ECONOMY IN
COAL
SPACE
PRICE.

ADDRESS FOR CATALOGUE.

THE NATIONAL PIPE BENDING CO.,

97 Lloyd Street,

NEW HAVEN, CONN.

Are You Good ?

Louisville, Ky.

We Have
The Goods.

We want the Trade of Good Houses and to such on Application we Make Prices to Insure Getting their Business.

Brass Engine Trimmings,

WATER GAUGES, STEAM GAUGES, LUBRICATORS,

HOSE GOODS, Etc.

The Ahrens & Ott Manufacturing Company,
(INCORPORATED.)
MANUFACTURERS.

BRICK and TILE Machinery,

Steam or Horse-Power.

BRICK MACHINES.

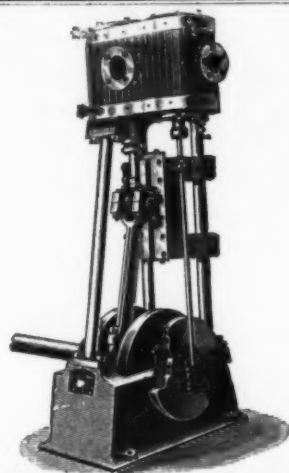
ALL KINDS AND SIZES.
GEORGE CARNELL, 1819 1821 Germantown Ave., cor. 5th,

PHILADELPHIA, PA.

CORRUGATED BRASS SHOE NAILS.

Full Weights and Good Goods in Papers or Brass Boxes.
Have you seen our new BRASS BOX? Very convenient.

ROME TACK & NAIL COMPANY,
ROME, N. Y.

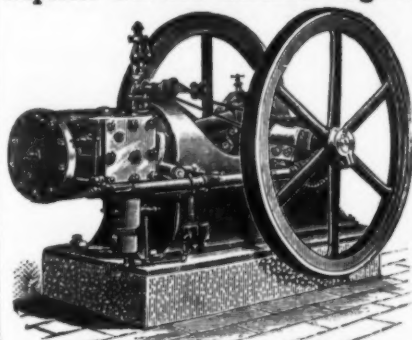


STATIONARY ENGINES.

Photos, Description and Estimates for the asking.

W. D. FORBES & CO.,
1308 Hudson St.,
HOBOKEN, N. J.
two blocks from 14th St. Ferry

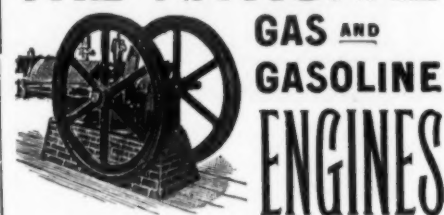
Superior Gas and Gasoline Engines



The Superior is a model of perfection for simplicity and durability: for the close regulation of speed and the developing of power they cannot be excelled. We manufacture these engines from 1 to 25 H. P. in sizes. Write for fuller description and prices **SUPERIOR GAS ENG. CO.,** 74 East Washington Street, SPRINGFIELD, OHIO.

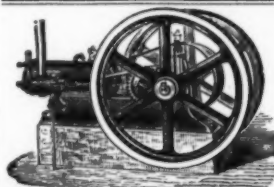


THE NATIONAL



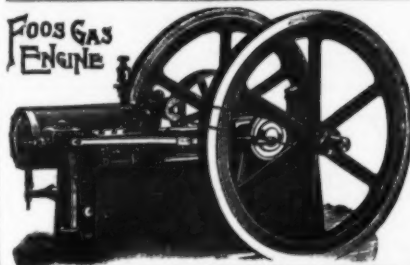
GAS AND GASOLINE ENGINES

Do You Need Power for Any Purpose?
Safe! Simple! Economical!
THE COOK-STODDARD MFG. CO.,
Send for Catalogue. DAYTON, OHIO.



GAS AND GASOLINE ENGINES

FOR ALL POWER PURPOSES.
SIMPLEST, STRONGEST, STEADIEST, MOST ECONOMICAL,
ABSOLUTELY RELIABLE.
THE OLIN GAS ENGINE CO.,
54 Lake View Avenue, BUFFALO, N. Y., U. S. A.



THE FOOS GAS and Gasoline Engines

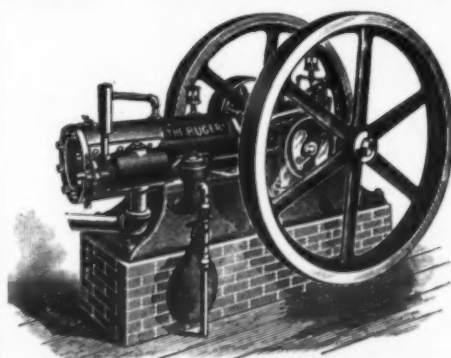
FROM 2 TO 100 HORSE POWER.

These engines give a regular, steady speed.
Can be run with Manufactured Gas,
Natural Gas and Gasoline.

MANUFACTURED BY THE
FOOS GAS ENGINE CO.
SPRINGFIELD, OHIO.

P. P. Mast & Co., 13th & Willow Sts., Phila., Agts.

GAS and GASOLINE ENGINES



Unprecedented success for four years.

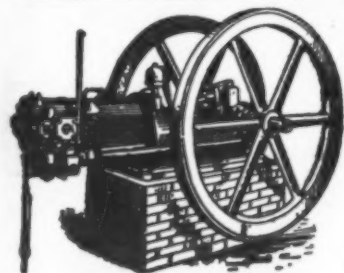
Extreme Economy.
Simplest on the market.
Neat and compact.
From 1 H. P. upward.
For all purposes.

Catalogue explains it all. Get one.

J. W. RUGER & CO.

Perry, near Chicago Street,
BUFFALO, N. Y., U. S. A.

Southern Agent:
ROGER K. GILBERT,
1300 W. Broad Street, Richmond, Va.



OVER
45,000
SOLD.

The OTTO GAS ENGINE.

WORKING WITHOUT BOILER, STEAM, COAL, ASHES OR ATTENDANCE.

Started Instantly it Gives Full Power Immediately. When Stopped All Expense Ceases.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running.
Printing, Ventilating, Running Small Shops, etc., etc.

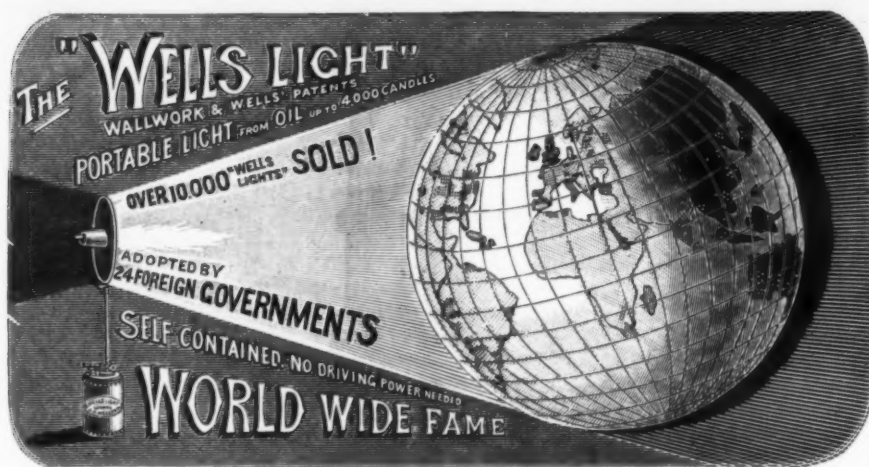
BRANCH OFFICE:
245 Lake St., CHICAGO, ILL.

The OTTO GAS ENGINE WORKS, Incorporated.

33D AND WALNUT STS.,
PHILADELPHIA, PA.

FOR COAL GAS
GASOLINE
NATURAL GAS
PRODUCER GAS

SIZES, 1 TO 200 HORSE POWER



THE WELLS LIGHT
WALLWORK & WELLS' PATENTS
PORTABLE LIGHT FROM OIL UP TO 4,000 CANDLES
OVER 10,000 "WELLS LIGHTS" SOLD!
ADOPTED BY 24 FOREIGN GOVERNMENTS
SELF CONTAINED. NO DRIVING POWER NEEDED
WORLD WIDE FAME

The Wells Light Mfg. Co.

No 44 Washington St., New York City.

Gentlemen:—It is contrary to our rule to give testimonials, but an article with the merit of your Wells Light deserves to be made an exception. We have used your lights for the past five years, and consider them indispensable to us.

Yours very truly,

Ross-Meehan Foundry Co.

P. A. Brawner, Sec. & Treas.

Ross-Meehan Foundry Co., Chattanooga, Tenn.
May 5th, 1896.

UNAFECTED BY WEATHER.

Especially adapted for Contractors, Quarries, Shovels, Railroad Construction, Dredges, Bridge and Dock Builders, Water Works, Brick Yards and Coal Docks.

300 Contractors and 450 Railroads now Use the WELLS LIGHT.**THE WELLS LIGHT MFG. CO.**

EDWARD ROBINSON, Sole Proprietor.

Cor. Washington and Morris Streets, NEW YORK.

SEND FOR CATALOGUE.

THE LEADING HOUSE.

H. WM. DOPP & SON,

MANUFACTURERS OF

Soap Makers' and Butchers' Machinery,

462 ELLICOTT STREET, BUFFALO, N. Y., U. S. A.

Swing Foot Lever Soap Presses, Nos. 1 and 2. Combination Foot and Steam Power Soap Presses. Improved Soap Remelting Catchers, either with or without Eight Horse-power Engine attached. Seamless Steam Jacket Kettles. Steamed Jacketed Toilet Soap Kettle, with Agitator (three different styles). Steam Jacketed Rendering and Refining Kettles. Steam Jacketed Kettles for Confectioners.

ILLUSTRATED AND DESCRIPTIVE CATALOGUE ON APPLICATION.

Mention this advertisement.



SUPPOSE there was a Steam Heating System that, while supplying any number of Radiators from the same main, permitted of each one of those Radiators being independently regulated to suit the calorific notions of the man in whose room it was located? Suppose, furthermore, that this was but one desirable feature of that system, which was also unapproachably effective in its operation and of notably small first cost?

Now the Webster System of Steam Heating

actually is precisely such an one, and the details of it are plainly set forth in a neat little booklet, which we shall be pleased to mail you. Will you afford us that pleasure?

Warren Webster & Co.,Camden,
N. J.New York,
39 Cortlandt St.Chicago,
1504 Monadnock Bldg.**A. & F. BROWN, ENGINEERS, FOUNDERS**

and MACHINISTS.

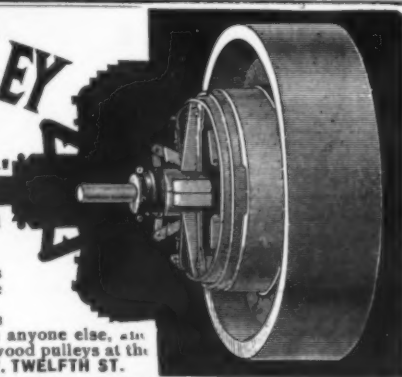
Shafting, Pulleys, Hangers,Friction Clutch
COUPLINGS,Steam Sirens,
[WHISTLES.]

Send for Catalogue.

25 Dey St., New York

Estimates and Plans furnished for
Transmitting Power byHORIZONTAL
AND VERTICAL
SHAFTING.Also for
ERECTING SAME.**THE TAPER-SLEEVE PULLEY WORKS
ERIE, PA.**

Friction Clutch Pulleys,

Sure, Strong and
Noiseless.Split Pulleys, You can start a load with this
Dead Pulleys and Clutch at any speed with ease
Wood Pulleys Whole. and safety.Shafting, Hangers We manufactured wood pulleys
and Couplings. for the trade ten years before anyone else, and
were the only company to exhibit wood pulleys at the
Centennial Exposition, Philadelphia, 1876. 213 W. TWELFTH ST.**"PROVIDENCE" WINDLASSES. CAPSTANS**

Best in the World.

BUILT BY THE
AMERICAN SHIP WINDLASS CO., Providence, R. I.**Don't Make a Mistake.**

A comparison of merits of different makes of Elevator Buckets will always result in a decision that the "SALEM" has no equal for long and satisfactory service. Send for price list.



The W. J. CLARK CO., Salem, Ohio, Sole Manufacturers.

GOLDEN'S FOUNDRY & MACHINE CO., Columbus, Ga.

Manufacturers of

Send for Price List
and
Discount Sheet.**Hangers, Shafting, Machine Moulded Pulleys,****COUPLINGS, PILLOW BLOCKS, FLOOR STANDS, COLLARS, &c.****POWER TRANSMITTING MACHINERY**Special Attention Given to the
Complete Equipment of**COTTON MILLS**

The Falls Rivet & Machine Co.

CUYAHOGA FALLS, OHIO,

MANUFACTURERS.

Southern Address,
J. H. LONG, Charlotte, N. C.**THE ACME MECHANICAL STOKER,**
ECONOMICAL, EFFICIENT, DURABLE, SMOKELESS.**THE MOST PERFECT SHAFTING MADE**TURNED, GROUND & HIGHLY POLISHED
IRON AND STEEL SHAFTING.

GUARANTEED ROUND, STRAIGHT AND TRUE.

The CUMBERLAND IRON & STEEL SHAFTING CO., CUMBERLAND, MD.
Mention this paper.

To the "Dixie" Millers.

Some unscrupulous person having maliciously spread a report that our mills do not give satisfaction in the South, and as it is impossible for us to reach all millers with a letter or a personal call, we append the following testimonial letter from the largest and most complete full Roller Mill in the State of North Carolina.

J. A. MILLS, President and Superintendent.

F. K. ELLINGTON, Treasurer.

S. A. JOHNSON, Secretary.

OFFICE OF THE FARINA ROLLER MILLS COMPANY,

MANUFACTURERS OF

FINEST PATENT FLOUR, MILL FEED, MEAL, BRAN, Etc.

RALEIGH, N. C., June 26th, 1895.

Messrs. AUG. WOLF & CO., Chambersburg, Pa.

GENTLEMEN—We have your favor of June 24th, and in reply would say that we are well pleased with our 100-barrel mill built by you some time ago. Notwithstanding the large amount of flour bought by our merchants when so cheap, we are selling ours to the best trade in the city, and many who have tried it will use no other. The mill makes the guaranteed quantity without any trouble and we anticipate good patronage. Wishing you the success we think you and your mills merit, with best wishes, we are,

Yours truly,

FARINA ROLLER MILLS,
Per J. A. Mills, Prest.

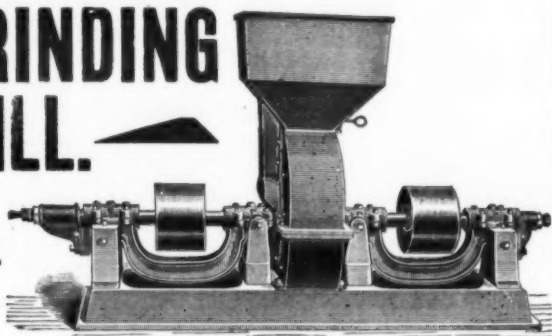
AUG. WOLF & CO., Chambersburg, Pa.

Manufacturers of Flour Mill Machinery of every description and builders of Flour or Corn Mills of any capacity with guaranteed results.

THE
ROBINSON
Patent

GRINDING
MILL.

CAPACITY:
3000 to 5000 lbs.
Feed Meal per Hour.



Paltney, Steuben Co., N. Y., October 25th, 1895.
Gentlemen—Inclosed find check to balance account. The mill does good work and does it very fast. It is the best Feed Mill there is on the market, and can grind as fast and better than anything I ever saw. I ground thirty bushels Oats and Corn in twenty minutes—how is that for grinding? Yours respectfully, NELSON RETAN.

Antwerp, N. Y., February 15, 1896.
Gentlemen—We are very glad to say to you that the Robinson Mill exceeds all expectations, and fully merits the high praise you gave it. Yesterday we ground with it 105 bushels of Oats in fifty-eight minutes, doing it splendidly. The least we can say for the Robinson Mill is this, it is the most perfect grain grinder we have ever met with, and we say this after thirty years' experience in milling. Yours truly, M. AUGSBURY.

Hammond, St. Law Co., N. Y., December 13, 1895.
Gentlemen—I started the Robinson Mill today, and don't want (5) five days' trial. It is a "dandy." It will knock out all the Iron Grinders in the market. I am glad that I got a Robinson Mill. I send you my check in payment for same. Yours, etc., WILLIAM SOPER.

MANUFACTURED BY

MUNSON BROS., UTICIA, N. Y.

Paragon Mill & Machine Works,

44 South Jefferson Street,
CHICAGO, ILL.

MACHINERY for Grinding



Corn and Oatmeal,
Graham Flour, etc.

CORN COB AND
SHUCK MILLS

substantially built on
SCIENTIFIC PRINCIPLES
ABSOLUTELY PERFECT.



ROBERTS STEEL CHAIN BELTING CO., Pittsburg, Pa.
Elevating & Conveying Machinery

... For handling all kinds of materials ...
Special Wrought and Steel Chains of every description; Coil and Cable Chains; Chain Haulages for Coal Mines; Sprocket Wheels; Complete Coal and Ashes Handling Plants; Wire Rope Haulages and the Rope.



BURR STONES

For all purposes
Manufactured by us.

Also ROLLER MILLS, SMUT MACHINES and
GENERAL MILL MACHINERY.

Established 1847.

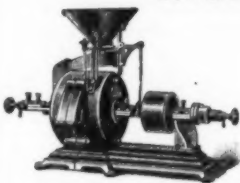
B. F. STARR & CO., Baltimore, Md.

FRENCH BURR and ROCK EMERY MILLS.

FLOURING MILL
MACHINERY.

SPROUT, WALDRON & CO., Muncy, Pa.

MANUFACTURERS AND MILL BUILDERS.

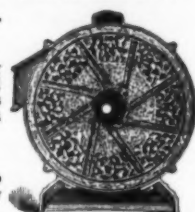


French Burr Mill.

Vertical Mills containing French Burrs for the grinding of grain into feed and meal, and Vertical Mills containing Rock Emery Burrs for hard substances—either shipped on a guarantee

FLOURING MILL MACHINERY
A SPECIALTY.
We use a roller process that we guarantee to give better results than can be obtained by any other system. Correspondence invited.

MENTION THIS PAPER.



Rock Emery Burr.

LINK-BELT ENGINEERING CO.

Nicetown, Philadelphia. 49 Dey St., New York.

ELEVATORS and CONVEYORS for Phosphate Rock, Fertilizers, and all other materials.

COAL HANDLING MACHINERY, COMPLETE, for Power Houses and Industrial Plants.

EWART LINK BELTING,

Sprocket Wheels, Dodge Chains, Ley's Patent Bushed Chains and the Monobar Conveyor.

LINK-BELT MACHINERY CO., CHICAGO AND NEW ORLEANS.

Chain Elevators, Conveyors.



JEFFREY

Roller, Steel and Special Chains

ELEVATING AND CONVEYING MACHINERY

FOR HANDLING MATERIAL OF ALL KINDS.

POWER TRANSMISSION MACHINERY.

COAL MINING MACHINERY.

Wire Cable Conveyors.

163 Washington St. NEW YORK. Send for Catalogue.

THE JEFFREY MFG. CO., Columbus, Ohio.

Advertise in the Manufacturers' Record.

INVEST IN Charleston, SOUTH CAROLINA.

This is a good time to start.

Room and work for

\$100,000,000

Jetties completed by U. S. Government give channel 26 feet deep to the ocean.
Harbor large and deep enough to float the combined navies of the world.

PERFECT CLIMATE.

GOOD HEALTH.

PURE ARTESIAN WATER SUPPLY.

CHEAP LIVING.

CHEAP TRANSPORTATION

by rail and water.

Charleston has in its vicinity the most successful market farms in the United States, annual shipments from which amount to more than \$2,500,000.

New manufacturing enterprises exempt from municipal taxation for five years.

NEARLY \$10,000,000

now invested in manufactures as follows:

Class.	No.	Hands emp'd	Capital inv'd	Annual product.
Bag factories.....	2	55	150,000	475,000
Bagging factories.....	1	325	300,000	350,000
Barrel factories.....	1	123	25,000	150,000
Basket and willow.....	2	13	10,000	25,000
Basket & veneer wks.....	1	210	75,000	125,000
Breweries.....	1	100	100,000	100,000
Candy factories.....	10	60	100,000	325,000
Carriage & wagon wks.....	16	100	100,000	100,000
Cider and vinegar.....	3	15	15,000	35,000
Cigar factories.....	1	100	100,000	100,000
Cotton factories.....	1	645	600,000	2,000,000
Cotton & wool pick'g.....	1	15	10,000	30,000
Cotton ties, etc.....	4	63	30,000	75,000
Envelope & box facty.....	1	140	5,325,000	4,365,000
Fertilizer works.....	13	275	100,000	700,000
Flour and grist mills.....	8	200	250,000	300,000
Foundries & iron wks.....	3	25	75,000	100,000
Ice factories and.....	8	180	325,000	450,000
Jobbing and.....	1	10	40,000	130,000
Lead factories.....	1	60	40,000	75,000
Marble & granite wks.....	5	35	27,000	70,000
Mattress factories.....	2	35	27,000	70,000
Men's clothing.....	11	9	50,000	325,000
Oil refineries.....	1	5	75,000	150,000
Proprietary estab'ls.....	45	130	40,000	1,150,000
Rice mills.....	3	30	60,000	150,000
Saw and lumber mills.....	2	35	40,000	70,000
Saw & sawing factories.....	2	35	40,000	70,000
Sail & blind factories.....	5	35	40,000	70,000
Ship and boat yards.....	3	20	75,000	175,000
Soap and candle facty.....	1	15	25,000	60,000
Soda water, etc.....	22	130	100,000	175,000
Underwear factories.....	3	150	100,000	175,000
Totals.....	189	5474	\$9,590,000	\$14,273,000

For any information address

BUREAU OF FREIGHT
AND TRANSPORTATION,

CHARLESTON, S. C.

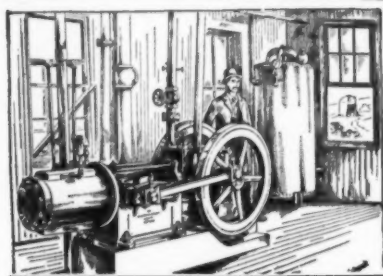
HENRY R. WORTHINGTON
86 and 88 Liberty St.
New York

Boston Philadelphia
Chicago Cleveland
St. Louis Detroit
Indianapolis Atlanta

WORTHINGTON STEAM PUMPS

WORTHINGTON
CONDENSERS

WORTHINGTON
WATER METERS



Pump water by

COMPRESSED AIR.

There is a saving effected.

For Factories, Water Works, Electric Power Plants and other users of water in quantities, it solves a problem. Send for special literature.

AIR COMPRESSORS, ROCK DRILLS, COAL CUTTERS, CHANNELLERS.

...THE...
Ingersoll-
Sergeant
Drill Co.
Havemeyer Building,
NEW YORK.

APOLLO GALVANIZED IRON.

Some work almost requires Apollo. Any iron will do for rough work.
Is there any advantage in using inferior iron?

Apollo Iron and Steel Company, Pittsburgh, Pa.

"CAHALL"

WATER TUBE BOILERS.

Send for Catalogue.

CAHALL SALES DEPARTMENT, Bank of Commerce Bldg, Pittsburgh, Pa.
Havemeyer Building, New York City.
24 S. Water Street, Cleveland, O.
712 Union Street, New Orleans, La.
1015 Tremont Building, Boston, Mass.

The Rookery, Chicago, Ill.
71 Perin Building, Cincinnati, O.
542 Drexel Building, Philadelphia, Pa.
10 Peninsula Bank Bldg, Detroit, Mich.



GAS ENGINE & POWER CO.

Morris Heights, New York City.

Sole Manufacturers of

The Only Naphtha Launch

Also Builders of

High-Class Steam Yachts and Electric Launches.

Send Ten-Cent Stamp for Catalogue.

COTTON MILLS

NEED IMPROVED MACHINERY

To Lessen Cost of Production.

WE SELL Improved Warpers, Spoolers, Twisters, Reels, Spindles, Temples, Rings, Separators, etc.

GEO. DRAPER & SONS, Hopedale, Mass.

"HOFFMAN" ROSENDALE CEMENT.

THE LAWRENCE CEMENT CO., Manufacturers.

M. ALBERT SCULL,
MARION S. ACKERMAN,
Gen'l Sales Agents.

No. 1 BROADWAY
New York City.

ERNEST R. ACKERMAN,
President.

JOHN T. BAILEY & CO.
Philadelphia, Pa.
Offices—505 to 509 Bourse.

Manufacturers of

BAGS, ROPE and TWINE.

IMPORTERS OF

BURLAPS.

FACTORIES:

OTSEGO, MORRIS, SWANSON and TASKER STS.

BUREAU OF FREIGHT
AND TRANSPORTATION,
CHARLESTON, S. C.

TON
ISERS

GTON
ETERS

oll-
nt
O.
uilding,
RK.

burgh, Pa.

I. O.
phia, Pa.
roit, Mich.

rk City.

unch

inches.

action.

ass.

facturers.

ERMAN,
President.

PS.

TASKER STS.

MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXX. No. 7.
WEEKLY.

BALTIMORE, SEPTEMBER 11, 1896.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

Manufacturers' Record.

PUBLISHED EVERY FRIDAY BY THE
Manufacturers' Record Publishing Co.

RICHARD H. EDMONDS, President.
WM. H. EDMONDS,
Secretary and Treasurer.

OFFICE: MANUFACTURERS' RECORD BUILDING,
BALTIMORE.

RICHARD H. EDMONDS,
Editor and General Manager.

THOMAS P. GRASTY,
General Southern Correspondent.

NEW ENGLAND OFFICE—John Hancock Building,
178 Devonshire Street, Boston, Mass.
S. I. CARPENTER, Manager.

Special Traveling Representatives:
RICHARD S. EVANS,
I. S. FIELD.

SUBSCRIPTION, - - - \$4.00 a Year.
To FOREIGN COUNTRIES, - - 26s. 6d a Year.

BALTIMORE, SEPTEMBER 11, 1896.

Cotton for Japan.

The Manufacturers' Record has often pointed out the growing importance of our cotton trade with Japan, as emphasizing the great value that the Nicaraguan canal would be to the South. With this short route opened, it is believed that in a few years Japan and the East would furnish a market for several million bales of American cotton. Commenting upon the fact that the shipments to Japan are even now assuming much importance, the New Orleans Times-Democrat says:

It is now announced officially that Japan will buy the cotton she needs for her mills in New Orleans. A Japanese broker has been in this country for several months surveying the field for the purpose of determining where he can buy cotton on the most favorable terms, and of the quality needed in Japan, and has finally decided to place a large order in New Orleans. Of course, if this is satisfactory, as it ought to be, New Orleans will get practically the entire Japanese business.

When it is considered that New Orleans is the centre of the cotton trade, and that purchasers of the staple have the greatest possible choice, it is natural that Japan should make its purchases here. At the same time, in view of the great competition in business nowadays, and the desire of Galveston and other cotton ports to capture this business, New Orleans was by no means a sure winner, and has every reason to be satisfied at having secured the plum.

The Japanese trade is already considerable, amounting to some 75,000 to 100,000 bales a year, and promises to steadily increase. It is the great ambition of Japan to become a manufacturing country, and it is most fortunately situated to succeed in this. It has a large population, thoroughly adapted for manufactures, skillful at work of all kinds, working for low wages, and the present condition of the financial world acts as a stimulus on home manufactures. The Japanese government is so anxious to introduce manufactures into its overcrowded islands, where there is not enough land to give employment to all in agriculture, that it is aiding the movement with bonuses to new factories; and the incentives are so many that the leading cotton mills on the Pacific coast, located at San Francisco, have "pulled up stakes" and moved over, "bag and baggage," to Yokohama, carrying all their machinery with them.

With such encouragement from the government Japan must become steadily a better market for cotton, and, good as is the

business now, it will improve from this time on. In capturing it, therefore, New Orleans has made a good beginning, which can be and ought to be improved.

Heavy Grain Exports from Southern Ports.

The most remarkable movement noted in the business interests of this country for many years is the phenomenal growth of the grain export business from Southern ports. Up to a few years ago Baltimore was practically the only Southern port that handled any very large quantity of grain. New Orleans then came in with a considerable trade, and Newport News followed; but during the past twelve months the development of the grain trade at these ports, as well as at other Southern ports, has been one of the most striking signs of the times. The papers of the entire country are giving great attention to this trade, as it seems to be the forerunner of a vast movement of Western products through Southern ports, and this must unquestionably be followed by the gradual development of a large import trade. The South Atlantic and Gulf ports, under this steadily increasing business, promise to take on new life and new vigor and rank with the most progressive cities of the country. Throughout the West great attention is being given to this grain movement, and in New York and other Eastern cities the drift of the grain trade away from those ports to the South is calling forth the most vigorous efforts from the business communities that the railroads shall save them from the complete loss of their grain trade. Fortunately for the South, however, this is a matter which railroads cannot control. The whole drift of this business is southward, and it is entirely in keeping with the general line of development which is marking the South as the coming field of advancement and development in commerce, in manufactures and in trade.

The Manufacturers' Record has, by the permission of the chief of the bureau of statistics, been permitted to compile in his office in advance of the government publication the total exports of grain from Southern ports for the twelve months ended August 31, generally known as the crop year. These figures are as follows:

	Flour, barrels.	Wheat, bushels.	Corn, bushels.
	1895-96.	1894-95.	1895-96.
Baltimore.....	2,786,390	2,511,483	5,579,046
Norfolk.....	18,689	44,052	2,058,242
Newport News..	1,415,241	1,087,195	5,674,384
Beaufort.....	20,567	83,783	85,000
Charleston.....	500	75	.....
Savannah.....	.....	25	.....
Pensacola.....	18,320	43,994	12,875
Mobile.....	55,626	1,868	93,161
New Orleans.....	166,388	78,940	2,775,014
Galveston.....	49,158	61,705	.....
Key West.....	36,309	42,387	20,842
Total.....	4,567,188	3,955,507	16,298,564
Total from entire country, partly estimated for August.....	15,000,000	.....	.....

The most striking fact brought out in this table is that of total corn exports from the United States for the past year of about 94,000,000 bushels, 65,800,000 bushels went from Southern ports, while of the 15,000,000 barrels of flour exported nearly one-third, or

4,567,000, were shipped from Southern ports. Reducing the flour to bushels, and the total exports of grain from Southern ports for the twelve months was about 95,000,000 bushels, against 45,000,000 bushels for the preceding year, showing a gain of 50,000,000 bushels.

Comparing the exports of corn by ports, New Orleans shows the phenomenal increase of from 2,700,000 bushels in 1894-95 to 21,148,000 bushels for the past year. Norfolk and Newport News, which are practically one and the same port, as they are both on Hampton Roads, shipped this year 18,300,000 bushels, against 7,600,000 bushels last year. Galveston, which made no corn shipments last year, has sent out 5,138,000 bushels this year. Mobile's corn shipments advanced from 93,000 bushels to 1,600,000 bushels, and Pensacola's from 12,000 bushels to 115,000 bushels. From Port Royal and Beaufort, S. C., the exports were 417,000 bushels, against 85,000 bushels last year.

Comment on these figures is almost unnecessary. They carry their own story of Southern advancement. To this phenomenal growth of the South's foreign commerce will soon be added a revival of general industrial and business interests, unless all business should be restricted by the result of the coming election.

Was He a Prophet?

Forty years ago Macaulay, the historian, wrote as follows:

The day will come in the United States when the multitude, distressed by hard times, will be called upon to choose a legislature. On one side is a statesman, preaching patience, respect for vested rights, strict observance of public faith.

On the other are demagogues ranting about the tyranny of capitalists and usurers. I seriously apprehend that the people of the United States will in some such season of adversity do things which will prevent prosperity from returning; that they will act like people who should in a year of scarcity devour all the seed corn, and thus make the next year a year, not of scarcity, but of absolute famine. There will be, I fear, spoliation; the spoliation will increase the distress; the distress will produce fresh spoliation.

When a society has once entered on this downward progress there is nothing to stop it. Either civilization or liberty must perish. Either some Caesar or Napoleon will seize the reins of government with a strong hand, or

	Flour, barrels.	Wheat, bushels.	Corn, bushels.
	1895-96.	1894-95.	1895-96.
Baltimore.....	2,786,390	2,511,483	5,579,046
Norfolk.....	18,689	44,052	2,058,242
Newport News..	1,415,241	1,087,195	5,674,384
Beaufort.....	20,567	83,783	85,000
Charleston.....	500	75	.....
Savannah.....	.....	25	.....
Pensacola.....	18,320	43,994	12,875
Mobile.....	55,626	1,868	93,161
New Orleans.....	166,388	78,940	2,775,014
Galveston.....	49,158	61,705	.....
Key West.....	36,309	42,387	20,842
Total.....	4,567,188	3,955,507	16,298,564
Total from entire country, partly estimated for August.....	15,000,000	.....	.....

your republic will be as fearfully plundered by barbarians in the twentieth century as the Roman empire was in the fifth; with this difference, that the Huns and Vandals, who ravaged Rome, came from without, while your Huns and Vandals will have been engendered within your own country by your own institutions.

Advance of Cotton Manufacturing in the South.

The detailed report of the cotton trade of the United States, as presented in this issue of the Manufacturers' Record, gives a very clear showing of the industrial growth of the cotton manufacturing interests of the South as compared with the country at large, verifying all that the Manufacturers' Record has from time to time predicted as to this industry.

Mr. Henry G. Hester, the secretary of the New Orleans Cotton Exchange, in his report for the year ending August 31, calls attention to the fact that Southern mills now have a total capacity of over 1,300,000 bales a year, and with the operation of the new spindles that are from week to week being started up he thinks it quite possible that the total consumption for the coming twelve months will be at least 1,200,000 bales. The importance of these figures is seen by making a comparison of the consumption, for a period of years, by Northern and Southern mills. The "takings" (the figures for Southern mills representing actual consumption) for recent years have been as follows:

Year ending August 31.	By Southern mills.	By Northern mills.
1896.....	904,701	1,600,271
1895.....	862,838	2,083,879
1894.....	718,513	1,601,173
1893.....	743,348	1,687,286
1892.....	686,080	2,190,706
1891.....	604,661	2,027,362
1890.....	546,894	1,790,258
1889.....	479,781	1,785,979
1888.....	456,000	1,804,993
1887.....	401,452	1,710,080

But for the fact that some Southern mills have been shut down or on short time during the last month or two on account of the depression the consumption in the South would have been over 1,000,000 bales, notwithstanding the fact that many of the new spindles have been in operation only during the last few months. Taking the statistics as they stand, however, they present a very striking comparison. Southern mills show an increase over 1895 of 42,000 bales; Northern mills, on the other hand, exhibit a decrease of 483,000 bales. It will be noted that, compared with the crop year of 1886-87, the "takings" of Northern mills for the past year show a falling off of 110,000 bales, illustrating the fact that during this entire period the cotton manufacturing interests of New England have practically remained stationary so far as the consumption of cotton is concerned. On the contrary, the South, which consumed only 401,000 bales in the year ending August 31, 1887, has more than doubled its trade, and for the past year consumed 904,000 bales. Last year New England mills took 1,220,000 bales of cotton more than the South. For the past year the difference against the South was only 696,000 bales. With a consuming capacity in the South of upwards of 1,300,000 bales, provided all its spindles be operated, and a strong probability, provided business

revives, that the consumption during the coming year will be certainly as much as 1,200,000 bales, it is not likely that New England will go over 2,000,000 bales under any conditions. Thus the South is steadily gaining, not only gaining on its own business, but gaining very rapidly on New England, promising in the early future to consume as much cotton in its own mills as New England. Nothing more strikingly illustrates and emphasizes the remarkable industrial progress of the South than these statistics of the cotton business.

The Views of an Investor in the South.

Editor Manufacturers' Record:

Throughout the industrial activity of the past few years no section of our country has forged ahead in the development of its resources by greater strides than the South. It is but just in this connection to recognize that in a large measure this has been due to the vigorous, consistent, persistent, intelligent and truthful presentation of particulars and details relating to the vast resources of this section by your journal. Representative manufacturers throughout the entire country have been brought into connection with consumers through your advertising columns, investors have been attracted and capital directed to the development of sound and legitimate enterprises, relying for their initial guidance in the accuracy and truthfulness of your articles.

Now that we are confronted with a crisis in the affairs of the nation, affecting every portion of our country and every form of industry, I am sure your readers will thank you for the editorial in your last issue pointing the way for the South, for there are thousands who look for guidance to the *Manufacturers' Record*, believing that in every crisis it will fully study every phase of any public question and then fearlessly and sincerely state its views for the guidance of those who depend upon the vast interests which you in great measure, by your untiring efforts, have created in the South.

The public are looking to such organs as the *Manufacturers' Record*, rather than the columns of the daily press or the heated and distracting arguments of deeply-rooted prejudice by partisans of either side.

Having recently completed a tour in the South, I was agreeably surprised to observe everywhere and among all classes the utmost attention to every phase of the controversy now engaging the thought of the nation, thus most clearly indicating an earnest desire to do what is right and refrain from wildly rushing headlong and blindly to fanatical conclusions either way.

With the exception of here and there instances of bigoted advocates of a gold standard injecting unqualified opposition to any and every possible statement of the opposite side, no matter how apparently worthy of at least some consideration, on the one hand, and of hot-headed, blind and infatuated silver enthusiasts advocating anarchy and rebellion, on the other hand, the people generally are calmly deliberative and earnestly searching for material which will lead them by a simple yet clear path to a reasonably accurate and sound conception of the momentous issue on which hinges greater privations or renewed prosperity. There is evidence in abundance of a sincere desire to vote for the principles which are most likely to restore good times. This is the true attitude of probably 75 per cent. of the people residing in the South and East. Your remarks, therefore, in your issue of August 14, under the head-

ing, "Some Suggestions About the Campaign," were timely and ought to be carefully noted by all who assume responsibility of acting as teachers. The people are serious and will neither brood nor tolerate insipid argument or illustration.

As a close observer of commercial events, national and international, with opportunity and experience in studying trade and finance from its practical side, and having an intimate knowledge of the conditions surrounding the artisan and laboring classes, it may not be inopportune to briefly touch on the cause which has given birth to this universal state of partial paralysis and collapse in every line of industrial activity and to venture a step farther and suggest the only course which we can with assurance and safety adopt to effect a speedy remedy.

There exists incontrovertible proof that the chief and original cause of the alarming conditions which confront us as a nation and affect us as individuals is in the tariff legislation of the present government. Other subsidiary events have been transpiring, it is true. We have been undergoing a thorough process of liquidation in railroad properties and large industrial undertakings. Indeed, a general process of liquidation and readjustment has been in progress in every direction, all of which, however, has had a wholesome effect on the general stability of the country and need not, therefore, figure as a factor in the consideration of the present issue. The cause can be traced directly to the withdrawal from operation of a tariff bill to which the country had busily and hopefully adjusted itself with buoyancy, and which insured unbroken prosperity, and in substituting for it one which has brought disaster in its train.

All of this trouble might have been averted, and the widespread distress it has occasioned avoided, if less politics and more patriotism had prevailed during the period of agitation preceding the last general election. It is well known that certain able leaders of the present government were so opposed to the tariff plank in the platform that they expressed disapproval of it in committee and in private predicted that if the party was defeated it would be due to the oversweeping tariff plank.

History has recorded that that very plank, instead of offering negative resistance, proved to be the magnet which attracted the people who believed it was hewn out of "all heart" material. President Cleveland has remained (however erroneously) true to his convictions and may be forgiven. Not so with certain of his associate leaders. For difference of opinion no one can find fault, but as responsible leaders of the people they should have voiced their disapproval of the principles inculcated in the party platform and on which they sought suffrage, preferring retirement rather than the power and influence of high office under false colors.

The party having been thus pledged to a new tariff, it was incumbent on it to do something in this direction to satisfy the wish of the people. Consequently a rash, hasty and ill-advised modification and upheaval of the then existing schedule was prepared. The work was entrusted to Hon. Wm. L. Wilson, of West Virginia, a gentleman whose ability is of an academical order, and who is now recuperating his health as Postmaster-General, and fortunately for the commercial community refraining from interfering with the ramifications of this institution. It soon became evident that the task was beyond his scope, not because of failure to apply himself to it, for he worked hard and zealously, but because it was a deeper

problem and covered a wider field and proved a more comprehensive subject than was superficially considered when under stump discussion on the hustings. Mr. Wilson's measure was with him an object of belief, based upon theoretical study, rather than the knowledge gained by practical experience. His enthusiasm knew no prudential bounds, as was evidenced by the speeches recorded in the proceedings of the London Chamber of Commerce, under whose auspices he was entertained at dinner. There he was cheered to the echo because, to the shrewd and capable merchants of Great Britain, it meant opening the greatest market of the world to their products. Their mills and potteries were made to hum, while ours in turn became silent.

The McKinley bill was destined to repeal, and the Wilson bill, upon which hinged the adversity or prosperity of the American people, was to take its place. The latter was run into a defective mold, full of air holes and cavities. These defects proved fatal as soon as it became exposed to the strain of practical test. Its hollowness has been discovered at great cost, and it is now a crumbling, shapeless, monumental failure and a stumbling-block in the path of commerce and finance that otherwise unobstructed leads to prosperity.

The effect has been to check the material progressiveness of the country, impair the national finances, menace its credit and generate a group of difficulties which singly and collectively have kept business in a state bordering on panic. Our industrial enterprises have been crippled, new developments have ceased; no business enterprise has escaped from the crushing effect of its influences. Every class of laborer, whether in the field, the workshop or the office, is suffering; many for lack of employment, others through irregularity and uncertainty. Homes have been robbed of peace, because of the stern struggle to make ends meet. Business men are struggling on the ragged edge of bankruptcy. Such a state of affairs continuing without break and with no prospect of relief has engendered a spirit of unrest among all classes; hence, as a matter of course, we find drastic measures being urged to improve this deplorable state of affairs. The Chicago platform represents in the main all that is advocated as the panacea, and brings out in bold relief a financial programme which the party defines as the main issue, viz., the free coinage of silver at a ratio of 16 to 1 versus gold, the present measure of value.

Linked to this, however, is a subtle, underlying, revolutionizing sentiment fraught with the greatest danger. It is that venomous spirit of a destructive proclivity leading to a tearing down from higher to lower levels. The most inexperienced observer of the idiosyncrasies of human nature cannot have failed to notice this spirit of debasing passion in individuals. It exercises a strong repelling action on well-balanced minds, and when it creeps into the platform of a party, asking the people to invest in it the necessary power to exploit it, it is time to promptly check it.

This brings us within full view of the real remedy. The cause has been directly traced by the experiences of the past three years to the repeal of the McKinley tariff bill and in substituting for it the present bill. The remedial measure, therefore, is in a prompt return to the adoption of a tariff schedule which will give us work and revenue. It is admitted that economic conditions are constantly changing, and in this connection it is strikingly significant that they are speedily assuming the same shape throughout all parts of the civilized

world. It is, therefore, but reasonable to conclude that financial systems must also change by sheer force of necessity or in obedience to the law of evolution. Bimetallism is a subject which demands and commands the careful study of economists, and it is not unlikely that when the conditions are adjusted to admit of its adoption that all the difficulties will be swept aside. Great events always cast their shadows before them, but this problem has been artificially forced into abnormal proportions by virtue of prevailing distress and difficulties arising from an entirely different source. Its adoption now and in its present shape will undoubtedly impair the national credit, destroy confidence between individuals and postpone the anxiously looked-for return of prosperity. It is moreover associated with evil tendencies, which some of the leaders appear to discountenance, but which nevertheless exist, and will require to be reckoned with and recognized if in them the power to govern is relegated and delegated by the people. It is a dark menace to the very foundations on which this country's greatness is built. There is but one certain course open to us, and that is to put the reins of government in the hands of experienced and conservative leaders, leaving mere party divisions out of our calculations. We must mount a higher plane of citizenship. McKinley, protection, sound finance and prosperity are happily within reach, and these are the synonyms of peace and plenty. The elevation of this illustrious citizen to the highest office in the gift of the people will have its immediate effect. Confidence will be restored; money will leave the vaults; our trade will expand, and deficiency in revenue, with its intermittent feverishness in finances, keeping us on the ragged edge of panic, will pass into history. We are now within measurable distance of renewed activity, and to be misguided at this time by the glamor of captivating theories on abstract questions will be but a repetition of the fatal blunder of 1892, only intensified by the enfeebled condition of the nation and the people. No greater calamity could befall us than the adoption of the Chicago platform. This, added to the present system of tariff, will cast us into a hopeless, helpless, state of disorder, striking despair into the hearts of those in the prime of business life, and the misery of privation, ever associated with poverty, into the homes of the masses. Fortunate it is that a man of such noble parts as William McKinley stands as the guiding star of the people in this hour of uncertainty, ready by perfect methods of government to bring about the greatest good to the greatest number.

A SOUTHERN INVESTOR.

Extensive Coking Plant in Georgia.

The Chickamauga Coal & Iron Co., of Chickamauga, Ga., has decided, so it is announced, to expend about \$100,000 upon the construction of a battery of 200 coke ovens at its mines, and also washing plant and other facilities.

The company intends to coke its entire output of coal, which is reported to be 1000 tons daily, and besides the ovens noted proposes the construction of 600 more at a cost of about \$300,000.

The company employs now 260 men in its mines, and will add 100 to its force at once, besides sixty who are at work on the erection of the new coking plant.

According to the last census of the voters of Baltimore the total population is estimated at 613,965, or an increase of about 35 per cent. as compared with 1894.

Subscribe to the *Manufacturers' Record*. Price \$4 a year, or six months for \$2.

SOME INTERESTING LETTERS.

Views of Great Business Houses
About Our "Special Kansas
City and Gulf Edition."

The "Special Kansas City and Gulf Edition" of the *Manufacturers' Record* continues to attract much attention in all parts of the country. The people of the great Southwest are fully alive to the value of the publication and the influence that it will have by placing before the business world the remarkable growth of foreign trade from the West through Gulf ports, and the bearing that this must have upon the industrial and general business interests of that entire section. The leading business institutions of Kansas City, appreciating these facts, and realizing what the development of Missouri, Arkansas, Texas and adjacent States means to the advancement of that city, are joining liberally in arranging for the widest circulation of this edition.

In this issue the great zinc and lead interests of Southwestern Missouri and Southeastern Kansas and Arkansas will be fully covered. The growth of these interests is of great importance to the manufacturers of the entire country. The lumber region stretching through much of the territory between Kansas City and the Gulf is being opened up by new railroads and made available for immediate development by deeper water at Gulf ports in connection with this increase of railroad facilities. The facts bearing on this will be elaborated to the interest of all lumbermen everywhere. The concentration of railroads at Kansas City, tending to bring the South and the West into closer relations; the magnitude of the shipments of grain and provisions from that city to Europe, will all be treated fully.

As illustrating the interest in this edition, the National Bank of Commerce, one of the leading financial institutions of the West, with a capital of \$1,000,000 and deposits of \$4,500,000, in a letter to the *Manufacturers' Record* under date of September 1, wrote:

"We appreciate the value of the forthcoming Kansas City and Gulf edition of the *Manufacturers' Record* to explain and emphasize the advantages of Kansas City, not only as a point of concentration for Western exports of meat products and breadstuffs, but for all business of every kind, with full financial facilities for taking care of the coming expansion of her trade. We will to this end subscribe to a general fund for sending to the bankers of the United States some thousands of extra copies of this edition, and will take for our own bank space for a display advertisement and a descriptive article. We will decide later as to the amount of space we will require."

The Schwarzschild & Sulzburger Co., an enormous packing concern, exporting meats and cattle on a large scale to Europe, write:

"Appreciating the value of the forthcoming Kansas City and Gulf edition of the *Baltimore Manufacturers' Record* to emphasize and illustrate the advantages of Kansas City as the central point of concentration for export meat products and breadstuffs, as well as its superb claims for all business, we desire to have our interests represented in this important publication, both by a display advertisement and some descriptive matter relating to our plant. We will decide later on the amount of space we will require."

From the Ash Grove White Lime Association, a concern having a capacity of 2000 barrels per day, we have a letter, in which they say:

"We agree with the sentiment you are promulgating, that while towns may languish and towns may die, Kansas City,

the metropolis of the region which supplies the world with bread and meat, must prosper in the future to even a greater extent than ever in the past. This association manufactures a product whose consumption will be increased by timely presentations of the conditions which underlie the general prosperity of this section, and so we desire to assure you of our intention to co-operate in making your coming Kansas City and Gulf edition a success. We will give you our substantial support to the extent of an advertisement and descriptive article, as you request."

Mr. C. A. Brockett, president of the C. A. Brockett Cement Co., says:

"I have read with much interest your announcement of a special Kansas City and Gulf edition of your journal, whose influence and power cannot be doubted after reading letters of endorsement from such men as John R. Procter, president of the Civil Service Commission, and Charles W. Dabney, Jr., Assistant Secretary of the Department of Agriculture, and others of equal prominence. The present prosperous condition of Kansas City, showing the activity of all elements of prosperity, and a future that cannot be calculated, and the buoyant state of our own branch of trade, prompt us to seek a representation of our interests in your important publication, both by a display advertisement and by some descriptive matter relating to our cement works, a matter of vast moment to this section of the country."

These letters are given as illustrations showing how the leading financial, industrial and exporting interests regard this edition.

FROM MR. WISHART.

[Fort Smith (Ark.) News-Record.]

Below is a letter from General Passenger Agent D. Wishart, of the 'Frisco, which goes to show that the forthcoming great Southwestern edition of the most influential Eastern industrial journal is appreciated by other railroad men as well as by Arthur E. Stilwell.

As the News-Record advised yesterday, the effect, both material and moral, of the splendid achievement of raising a considerable sum, hard times or no hard times, for the purchase of prosperity, may be quadrupled by letting all the world know about it. Advertising is all the more valuable when one has something to advertise. The acquisition of such an industrial lever as the 'Frisco shops gives this city a text to talk about. Spread the good news far and wide. Let men of enterprise know that Fort Smith is resolved to be the metropolis of the Central Southwest—the big city of the region between Kansas City and the Gulf.

The following is from Mr. Wishart:

"St. Louis & San Francisco R. R. Co.,

"Office of the Gen'l Pass. Agent,

"St. Louis, August 26.

"Thomas P. Grasty,

"The *Manufacturers' Record*,

"Baltimore, Md.

"Dear Sir—I am glad to hear that you contemplate making as a feature of your Kansas City and Gulf edition a special supplement devoted to Fort Smith, whose resources are such as, if more thoroughly appreciated by men of enterprise and capital, can but result in the upbuilding of a very important industrial and commercial centre.

"We will be glad to circulate some copies of your edition containing the Fort Smith supplement, and hope you may meet with encouragement at the hands of the public-spirited citizens of that city.

"D. WISHART, G. P. A."

If you want to sell Southern property or attract Northern and Western settlers, advertise in the *Southern States* magazine, published by the *Manufacturers' Record* Publishing Co., Baltimore, Md.

COTTON CROP OF THE UNITED STATES FOR 1895-96.

By Henry G. Hester, Secretary New Orleans Cotton Exchange.

The cotton crop of the United States for the year ending August 31, 1896, amounts to 7,157,346 bales, showing a decrease under the crop of 1894-95 of 2,743,905, under that of 1893-94 of 392,471, and an increase over that of 1892-93 of 456,981 bales.

The greatest falling off compared with last year has been in Texas (including Indian Territory), the drop from the phenomenal yield of last season having reached 1,286,376 bales. The group of Atlantic States (consisting of Alabama, Georgia, Florida, North Carolina and South Carolina) has decreased 619,771 bales, and the Gulf States (Arkansas, Louisiana, Mississippi and Tennessee) show a loss of 837,758.

Coming on the heels of the practically perfect crop of 1894-95, the results, as above set forth, indicate nothing short of disaster, the change from perfect conditions to an absolute reverse being the more marked because of the rapidity with which one followed the other. The differences were so great as to lead to an overestimation of the damage and in the earlier part of the season not a few intelligent observers and thinkers confidently predicted an outturn of from 6,000,000 to 6,250,000 bales. Indeed at one time the reports from the interior led many to believe in the possibility of a crop the first figure of which would prove to be a five.

When it is remembered how startling were the changes between the growing season of 1894 and that of 1895, and that the producers in drawing comparisons passed from a period immediately antecedent, during which the fields were covered with plants literally groaning under the weight of fruitage, to one shrouded in gloom and uncertainty, it is not surprising that their reports should have pictured the situation worse than actual circumstances warranted. A fine picking season and an open winter also did much toward increasing the final outcome.

Based on a fair average for the United States, the highest point touched was 9 3-16 cents per pound for middling, and the lowest 6 1/2 cents, the average for the entire season being 8.18 cents, a gain on the crop over last year's average of 2.26 cents per pound, or say, in round figures, \$11 per bale.

The average commercial value of the crop has been \$41.09 per bale, against \$30 last year, \$37.50 the year before, and \$42.50 in 1892-93, and the total value of the crop compares with past four years as follows:

COMMERCIAL CROP.

	Bales.	Value.
1895-96.....	7,157,346	\$294,065,347
1894-95.....	9,901,251	297,037,530
1893-94.....	7,549,817	283,118,137
1892-93.....	6,700,365	284,765,512
1891-92.....	9,035,379	338,820,712

It thus appears that while the past crop was short of last year's by 2,743,905 bales, the loss in value was only \$2,942,183, and it is reasonable to presume that even the latter would not have occurred in face of the strong statistical position had it not been for depressed and uncertain trade and financial conditions. In fact, we should probably have witnessed the sale of, say, a 7,000,000-bale crop for a sum considerably in excess of that obtained for the 10,000,000 one of last year.

In figuring the average for the current season it must be remembered that the bulk of the yield was marketed at the highest prices of the year, say from September to January, inclusive, when values ranged from \$39.82 to \$45.25 per bale, the figures lower than those prevailing during the summer months.

Usually the quantity of new cotton marketed in August (that is received at ports and counted in the commercial crop) is not large; this year, however, it exceeds all precedent, comparing with the four previous seasons as follows:

	Crop year.	August receipts of new cotton included.
1895-96.....	7,157,346	165,909
1894-95.....	9,901,251	7,656
1893-94.....	7,549,817	39,808
1892-93.....	6,700,365	20,883
1891-92.....	9,035,379	19,126

In considering the actual growth of the current year I find it necessary, therefore, to depart from the usual form of table adopted in previous annual reports, the calculation being as annexed, viz:

	Bales.
Commercial crop of 1895-96.....	7,157,000
Less old cotton left over 1894-95.....	215,000
Plus grown not marketed in 1895-96.....	6,942,000
Less August receipts of new cotton of the growth of season 1896-97.....	165,000
Actual growth of 1895-96, bales.....	6,941,000

An item in this connection is the reduced weights of bales, which average 6.80 pounds less than last year, so that if calculated on last year's weights, the result would be slightly more than 95,000 bales less. In other words, the commercial crop of this year is equal, in round figures, to but 7,062,000 bales of last year's crop, and the approximate actual growth to but 6,846,000.

COMMERCIAL CROP BY STATES FOR THE PAST FOUR YEARS.
(In thousands of bales).

	1895-96.	1894-95.	1893-94.	1892-93.
Alabama.....	830	1,000	925	740
Arkansas.....	620	850	625	535
Florida.....	48	60	50	45
Georgia.....	1,079	1,300	1,125	940
Louisiana.....	430	600	400	340
Mississippi.....	800	1,200	916	755
North Carolina, etc.....	384	465	425	367
South Carolina.....	464	800	750	635
Tennessee, etc.....	252	350	275	235
Texas and Indian Territory.....	1,990	3,276	2,050	2,108
Total crop, bales.....	7,157	9,901	7,550	6,700

The season has proven less favorable for

AMERICAN MILLS

both North and South. What with poor trade during the last half of the season, and unfavorable monetary conditions, prices of manufactured goods have not kept pace with the increase in values of the raw material, the result proving the reverse of profitable. For months past stocks of goods have been accumulating heavily, and

many mills have found it expedient to curtail consumption. In the South more cotton has been used, but this has been due to the increased number of mills and spindles that have gone on with the work, which is a continuation of the steady removal of the seat of a certain class of cotton manufactures from the East to the cotton States. Had the season proven as good as that of 1894-95, however, it is safe to say Southern consumption would have been from 125,000 to 150,000 bales larger than even the increased figures shown below. Reference is made to a complete statement elsewhere, giving important and interesting details relative to the Southern cotton-milling industry. The combined takings North and consumption South have amounted to 441,705 bales less than last year, and 185,284 more than the year before, the figures for the three years comparing as follows:

	1895-96.	1894-95.	1893-94.
North	1,600,271	2,083,839	1,601,173
South	904,701	862,838	718,515
Totals	2,504,972	2,946,677	2,319,688

As matter of interest the following brief showing is made of the cotton-manufacturing industry for the past forty-six years:

COTTON TAKEN IN BY AMERICAN MILLS.				
Year ending August 31.	Northern Mills.	Southern Mills.	Total.	Commercial Crops.
1850.	475,702	87,067	562,769	2,171,706
1860.	786,521	178,107	964,628	4,823,770
1870.	806,890	90,000	896,890	3,154,918
1880.	1,573,997	221,357	1,795,354	5,761,252
1890.	1,780,258	546,894	2,327,152	7,311,392
1892.	2,190,706	686,089	2,876,846	9,035,379
1895.	2,083,839	862,838	2,946,677	9,901,251
1896.	1,600,271	904,701	2,504,972	7,157,346

The figures of Southern mills represent actual consumption.

An important item in connection with mill takings is the

IMPORTATION OF FOREIGN COTTON,

which this year equals all of 112,000 American bales. Of this, a little over 2000 bales (American weight) have been re-exported, leaving, say, equal to 110,000 that have gone into use by our domestic mills. But a few hundred bales have been sent South, practically all having been taken by mills north of the Potomac river.

AMERICAN COTTON CROP FOR FOUR YEARS.

	1895-96.	1894-95.	1893-94.	1892-93.
Port receipts.....	5,420,246	8,006,177	5,940,092	5,088,392
Overland to mills.....	873,465	1,087,101	931,706	912,146
Southern consumption.....	904,701	862,838	718,515	743,848
Less taken by Southern mills from ports.....	7,198,412	9,956,116	7,590,313	6,744,386
Total crops.....	7,157,346	9,901,251	7,549,817	6,700,365
Exports—				
Great Britain.....	2,290,182	3,443,574	2,859,114	2,307,489
France.....	465,870	774,476	587,209	555,239
*Continent and channel.....	1,861,116	2,500,911	1,775,784	1,523,639
Canada overland.....	81,040	90,316	65,690	58,971
Total exports.....	4,707,208	6,818,277	5,287,887	4,445,338
Stock at close of year.....	223,179	280,091	183,787	242,631
Northern mill takings.....	1,600,271	2,083,839	1,601,173	1,687,286
Aver. gross weight of crop per bale—pounds..	501.92	508.72	499.27	500.37

*Including Mexico, details of which are given in export table.

COTTON CONSUMPTION OF THE SOUTH.

Census of Southern Mills for Year Ending August 31, 1896.

Notwithstanding the unfavorable conditions of the past year, the cotton-milling industry of the South has continued to increase; a large number of new mills have been added and many of the old establishments have materially increased their spindles. Building of new mills is still going on at a rate even exceeding the activity in that respect noted in my last annual report. The unfavorable monetary and trade conditions of the past season are regarded as temporary and the confidence is stronger than ever in the ultimate destiny of the South as the consumer of a large percentage of its own cotton. The record of this season is the more remarkable, coming, as it does, after the showing of last year; it is as follows:

Total number of mills last year.....	435
Crossed out and merged into other concerns.....	12
Burned	3—

New mills added.....	55
	475

Last year the number of mills added was sixty-three. The record of cotton

SPINDLES	
In the South shows in operation.....	2,956,396
Idle	162,542
New not complete.....	574,300
Or say a total of.....	3,693,238
While last year it was.....	3,177,310
Showing a gain of spindles.....	515,928

As indicated by the tables annexed, the total consumption in all the mills (old and new) for the year was 904,701 bales, against 862,838 for the season of 1894-95, and 718,515 for that of 1893-94, an increase over last year of 41,863 bales, and over the year before of 186,186. The changes in each State as compared with last year are as follows:

	Gain.	Loss.
Bales.	Bales.	Bales.
Alabama	4,972	.....
Arkansas	177	.....
Georgia	4,726	.....
Kentucky .....	.....	1,258
Louisiana .....	.....	2,937
Mississippi	839	.....
Missouri .....	.....	962
North Carolina.....	5,290	.....
South Carolina.....	26,731	.....
Tennessee	790	.....
Texas .....	.....	951
Virginia	4,446	.....
Totals	47,971	6,108
Total net gain.....	41,863	.....

The decrease in the average consumption per spindle in mills in operation has been 21.78 pounds, due to resort to short time by many and stoppage of some of the mills during part of the season. Change to finer numbers has had some effect, but

accounted for but very little. The comparisons for the past five seasons are as annexed:

AVERAGE CONSUMPTION PER SPINDLE BY SOUTHERN MILLS.

	Pounds.
1895-96.....	142.67
1894-95.....	164.45
1893-94.....	147.60
1892-93.....	160.30
1891-92.....	160.00

So much has recently been said and written concerning the

STOPPAGE OF MILLS AND SPINDLES

that I have made it a matter of special investigation. Just here it may be well to say that this report is actually what it purports to be, a veritable census of the Southern cotton-milling industry. Every mill has been communicated with and heard from, and every new mill or projected mill has been traced and full particulars obtained therefrom. There is no guesswork in this statement; the information it gives consists of solid facts. The work of compiling my list of mills has been carried on under my immediate supervision throughout the year, and it contains every consumer of cotton in the South.

While, as already shown, unfavorable conditions have affected a considerable percentage of the mills, yet the greater number report the reverse.

In answer to the query: "Has your cotton consumption been affected by the unfavorable trade and monetary conditions of the past year, and if so to what extent?" mills in operation containing 2,832,990 spindles out of a total in operation of 2,956,396 reported, and mills with 123,397 failed to reply to that particular question. The result of the replies is tabulated as follows:

CONSUMPTION UNFAVORABLY AFFECTED BY TRADE CONDITIONS, ETC.

	REPLIES OF MILLS.				Total.
	Yes.	No.	Less.	Doubtful.	
	Spindles.	Spindles.	Spindles.	Spindles.	Spindles.
Alabama	48,380	143,048	13,500	3,120	208,048
Arkansas	6,000	3,000	.....	.....	9,000
Georgia	216,316	350,104	16,366	47,584	630,370
Kentucky	28,144	28,850	.....	.....	56,994
Louisiana	60,752	.....	.....	.....	60,752
Mississippi	34,378	22,580	.....	6,240	63,198
Missouri	2,808	12,000	.....	.....	14,808
North Carolina.....	329,418	337,888	11,500	60,642	739,448
South Carolina.....	156,332	544,324	.....	72,080	772,736
Tennessee	71,833	33,410	.....	8,500	113,743
Texas	20,000	12,464	.....	.....	32,464
Virginia	29,244	100,214	.....	1,980	131,438
Totals	1,003,605	1,587,882	41,366	200,146	2,832,990
Total spindles mills in operation.....					2,956,396

Under head of "doubtful" are those slightly affected or new mills that commenced late and were not in full play; under that of "less" are those reporting rather favorably, but whose consumption was lessened, some through resort to finer numbers.

From this it will be seen that concerns having more than one-half of the spindles have experienced thus far no ill effects. Whether it is that many mills with old machinery are unable to compete successfully with their neighbors of more modern construction, or, in other words, cannot operate profitably on as narrow a margin between prices of the raw and manufactured article, is a question. Doubtless this has much to do with the difference in the reports.

Nevertheless, the interference noted has had a sensible effect on the total consumption for the year, which under favorable conditions would have been all of 138,000 bales greater, if not 150,000. This may be arrived at through annexed calculation:

Average consumption per spindle last year, pounds.....	164.45
Average consumption per spindle this year, pounds.....	142.67
Loss per spindle the year, pounds.....	21.78
Loss of 21.78 pounds per spindle on 2,956,396 spindles in mills in operation, pounds.....	64,390,305
Equal to at this year's average, net weight of cotton consumed in Southern mills, say 466.22 pounds per bale, in bales.....	138,111

So that with good trade Southern consumption for 1895-96 should have been 1,043,000 bales.

Another point is that, in addition to the stoppage, many new mills did not start the spindles they expected. The interruption has varied, some concerns having stopped in part and some altogether, for periods of from one to four months or more. It is certain, however, that very few concerns in the entire South used as much cotton as they would have done with good trade.

Present conditions are best shown by the following statement of mills:

CLOSED DOWN ENTIRELY IN AUGUST, 1896.	
Mills.	Spindles.
Alabama	4
Arkansas	1
Georgia	6
Kentucky	3
Louisiana	1
Mississippi	1
Missouri	1
North Carolina.....	19
South Carolina.....	8
Tennessee	7
Texas .....	.....
Virginia	1
Totals mills closed.....	52
.....	252,486

*Including one mill of 40,288 spindles stopped in August to put in new wheel.

Thus, out of 386 mills that have been in operation during the season, fifty-two, or 13½ per cent., have stopped for the present, the spindles they contained amounting to 8½ per cent. of the total in mills in operation. The stoppages above only allude to mills that have been in operation during the year, and not to the twenty-eight idle mills, with 162,542 spindles, given in the regular table below, which have remained permanently closed during the entire twelve months. Of course, the above does not include also a large number of spindles now working short time in many mills, the whole having affected the August consumption to the extent of about 20,000 bales.

THE CONSUMPTIVE CAPACITY OF THE SOUTH,

including old, idle and new mills not complete, is now in round figures 1,303,000 bales of this year's average net weights, as shown by annexed, viz:

Total spindles in the South.....	3,693,238
Capacity at average of 164.45 pounds per spindle (the consumption of 1894-95, when trade was good), pounds.....	607,352,960
Which at 466.22 pounds, net average per bale, would give, bales.....	1,302,718

It is not, therefore, improbable that the total for the coming year may reach, with good trade, 1,200,000 bales. This it not, however, given as an estimate, but a possibility.

The following tables show totals of mills, looms, spindles, consumption by States, and other interesting facts relating to the manufacture of the great staple:

Sept
Alabama
Arkansas
Georgia
Kentucky
Louisiana
Mississippi
Missouri
North Carolina
South Carolina
Tennessee
Texas
Virginia
Total
*Not in
Alabama
Arkansas
Georgia
Kentucky
Louisiana
Mississippi
Missouri
North Carolina
South Carolina
Tennessee
Texas
Virginia
Total
Last Year
*Inc
+Inc
States
Alabama
Arkansas
Georgia
Kentucky
Louisiana
Mississippi
Missouri
North Carolina
South Carolina
Tennessee
Texas
Virginia
Total
Less con
receiv
Net con
*MI
+En
The
in poun
Alabama
Arkansas
Georgia
Kentucky
Louisiana
Mississippi
Missouri
North Carolina
South Carolina
Tennessee
Texas
Virginia
Total
Stock
Total
Export
Sent to
Burnt
Stock
Total
Of v
Taken
Taken
Avera
Avera
Avera
Avera
Avera
Louis
Texas
Alabama
Florida
South
Virginia
North
Tenn
Incl
T
La
REC
New
Galv
Mobi
Sava
Brun
Char
Wilm
Norf
New
T
Port
+

SOUTHERN COTTON MILLS IN 1895-96.

	MILLS.				New not completed.
	Total.	In operation.	Idle.	New.	
Alabama	38	27	11	1	1
Arkansas	3	3	0	0	0
Georgia	81	66	15	1	1
Kentucky	11	11	0	0	0
Louisiana	5	4	1	1	1
Mississippi	11	8	3	1	1
Missouri	5	4	1	1	1
North Carolina	176	138	38	5	5
South Carolina	35	28	7	1	1
Tennessee	9	8	1	1	1
Texas	12	11	1	1	1
Virginia	475	361	25	28	61

*Not including mills temporarily idle on account of trade depression.

SPINDLES.

	In operation.				New not completed.*
	Total.	Old.	New.	Idle.	
Alabama	275,160	212,000	4,100	3,200	55,800
Arkansas	9,000	9,000	0	0	0
Georgia	680,178	619,070	15,000	10,108	36,000
Kentucky	60,784	60,784	0	0	0
Louisiana	62,952	60,752	0	2,200	0
Mississippi	73,198	56,958	6,240	0	10,000
Missouri	25,308	14,808	0	0	10,500
North Carolina	949,854	689,714	72,120	14,720	173,300
South Carolina	1,192,004	733,204	106,600	90,000	292,200
Tennessee	148,915	130,080	0	18,816	0
Texas	70,462	32,464	0	30,998	7,000
Virginia	145,423	133,423	0	12,000	0

Total. 3,693,238 2,752,336 204,060 162,542 574,300
Last year. 3,177,310 2,413,151 70,973 134,670 558,516
Year before last. 2,503,876 2,188,708 93,788 129,932 514,448

*Including 53,500 just started up.

†Includes spindles being added to old mills.

SOUTHERN COTTON CONSUMPTION YEAR ENDING AUGUST 31.

(Actual figures reported by the mills).

States.	No. Mills.*	Looms.†	Spindles.†	1895.	1896.
Alabama	30	3,557	216,160	71,900	66,928
Arkansas	3	204	9,000	2,417	2,240
Georgia	70	15,559	634,070	210,844	206,118
Kentucky	11	1,754	60,784	20,135	21,393
Louisiana	4	1,534	60,752	13,755	16,692
Mississippi	9	1,006	63,198	16,776	15,937
Missouri	4	204	14,808	1,439	2,401
North Carolina	146	17,457	761,834	232,072	226,782
South Carolina	66	24,829	839,804	254,698	227,907
Tennessee	29	3,434	130,069	31,917	31,127
Texas	3	992	32,464	11,469	12,420
Virginia	11	4,509	133,423	37,279	32,833

Totals 386 75,789 2,956,396 904,701 862,838
Less consumed and taken from Southern seaports, and included in port receipts. 41,066 54,865

Net consumption to be added to crop. 863,635 807,973

*Mills in operation only, for total in South see other table.

†Employed in mills in operation, for total in South see other table.

The following shows the consumption of Southern mills during the past two years in pounds, of lint cotton, and the average net weights per bale:

	Pounds.		Average weights.	
	This year.	Last year.	This year.	Last year.
Alabama	34,553,212	32,368,629	480.57	483.63
Arkansas	1,172,930	1,112,070	485.28	496.46
Georgia	98,563,032	97,836,864	467.47	474.66
Kentucky	9,901,824	10,508,687	491.77	491.22
Louisiana	6,433,607	8,102,599	467.73	485.42
Mississippi	7,733,992	7,699,837	461.02	483.14
Missouri	705,240	1,235,276	490.00	514.48
North Carolina	105,894,419	104,267,132	456.17	450.77
South Carolina	118,215,557	108,077,296	464.14	474.09
Tennessee	15,222,824	15,312,173	476.95	491.93
Texas	5,758,475	6,327,400	502.08	509.45
Virginia	17,668,373	15,674,672	473.95	477.41

Totals 421,793,485 408,522,635 466.22 473.46

CONSUMPTION UNITED STATES.

	1895-96.		1894-95.	
	Bales.	Weight.	Bales.	Weight.
Total crop United States.	7,157,346	280,091	9,901,251	183,787
Stock at ports beginning of year.	280,091	0	183,787	0
Total supply.	7,437,437	0	10,085,038	0
Exported during year.	4,626,168	0	6,718,961	0
Sent to Canada.	81,040	0	99,316	0
Burnt at delivery ports.	2,078	0	39,993	0
Stock at close of year.	223,179	0	280,091	0

Total takings for consumption, United States. 2,504,972 2,946,677

Of which—

Taken by spinners in Southern States, total. 904,701 862,838

Taken by Northern spinners. 1,600,271 2,083,839

AVERAGE MILL TAKINGS IN BALES.

	This year.		Last year.	
	Bales.	Weight.	Bales.	Weight.
Average weekly takings, Northern mills.	30,774	40,074	30,774	40,074
Average weekly takings, Southern mills.	17,398	16,593	17,398	16,593
Average weekly mill takings, United States.	48,173	56,667	48,173	56,667
Average monthly takings, Northern mills.	133,355	173,653	133,355	173,653
Average monthly takings, Southern mills.	75,391	71,993	75,391	71,993
Average monthly mill takings, United States.	208,748	245,556	208,748	245,556

WEIGHT OF BALES—1895-96.

	No.		Average	
	Bales.	Weight.	Pounds.	Weight.
Louisiana	1,809,864	508.42	920,171,055	0
Texas	1,132,062	525.24	594,604,245	0
Alabama	202,288	490.62	101,067,131	0
Florida and Georgia.	925,517	483.91	447,896,931	0
South Carolina.	371,838	487.08	181,114,853	0
Virginia	503,434	482.11	242,710,566	0
North Carolina.	176,447	489.00	86,282,583	0
Tennessee, etc., and consumed in the South not above included.	2,035,896	500.32	1,018,590,487	0
Total crop.	7,157,346	501.92	3,592,416,851	0
Last year.	9,901,251	508.72	5,036,965,022	0

RECEIPTS OF NEW CROP PRIOR TO SEPT. 1, 1896, AT LEADING OUTPORTS.

	1896.		1895.	
	Bales.	Weight.	Bales.	Weight.
New Orleans.	46,051	4,379	46,051	4,379
Galveston.	71,736	2,877	71,736	2,877
Mobile.	2,887	77	2,887	77
Savannah.	27,342	285	27,342	285
Brunswick.	0	0	0	0
Charleston.	9,623	38	9,623	38
Wilmington.	5,016	0	5,016	0
Norfolk.	3,282	0	3,282	0
New York.	2	0	2	0
Total.	185,909	7,656	185,909	7,656
Port receipts for August.	228,140	140,330	228,140	140,330

*Including net plus corrections for year 49,047 bales.

†Including net plus corrections for year 25,354 bales.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Remarkable Train Service.

The Chesapeake & Ohio has added more laurels to its record for prompt train service. During the months of March, April, May and June of this year the four vestibuled trains between Washington and Cincinnati were on time 463 times out of a possible 488—an average of 95 per cent. During that time they covered 292,312 miles, each train making the run between the cities, 599 miles, 122 times. It is a question if any railroad company in this country can show figures which are more creditable.

Bonds for a New Road.

According to a dispatch from Washington, Ga., the people in that section are much interested in the proposed Tennessee, Georgia & Atlantic road. It is stated that \$50,000 in bonds have already been subscribed in aid of the enterprise. The promoters of the new line are not endeavoring to secure stock subscriptions, but will sell bonds, the money to be paid when the portion of the road covered by the bond subscription is completed. A correspondent of the Manufacturers' Record at Washington writes that surveys are now being made.

New Line to the Oil District.

The Manufacturers' Record is advised that the project to build a railroad from Sistersville into Tyler county, W. Va., oilfields has made considerable progress. This is the road in which Hon. W. A. MacCorkle, governor of the State, is interested, in connection with other capitalists. Already Tyler county has voted a subscription of \$50,000 to the enterprise, and the promoters are endeavoring to secure further subscriptions in that locality. Governor MacCorkle was one of the prime movers of the Charleston, Clendennin & Sutton road, which is now being completed through the heart of the State.

Poor's Manual.

In its last issue the Manufacturers' Record published a short summary of statistics from advance sheets of Poor's Manual of Railroads for the past year. In connection with these sheets the publishers have issued a circular describing the general features of the work. It is stated that in the present edition of the Manual, which comprises nearly 1900 pages, statements of 4399 corporations are given, including 2040 steam railroad companies, with a capital of \$12,400,000,000; 1208 street railroad companies, with a capital of \$1,375,000,000; 143 industrial corporations, with a capital of \$1,500,000,000, and 1008 statements from States, counties, cities, towns and miscellaneous corporations.

W. H. Baldwin's Resignation.

The announcement is made of the resignation of Mr. W. H. Baldwin, Jr., second vice-president of the Southern Railway Co. He is to be succeeded by Mr. W. W. Finley, who at one time was third vice-president of the road, but of late has been acting in the same position for the Great Northern Railroad Co. Mr. Baldwin has accepted the presidency of the New York & Long Island Railroad and will take possession of his new office on September 15. Although Mr. Baldwin has been associated with Southern interests but a comparatively short time, he has made a record in this section of which any railroad man may well be proud.

Mr. Finley, who assumes Mr. Baldwin's position, is well and favorably known in the South, and it is unnecessary to say will doubtless carry out the duties of this important position in a satisfactory manner.

\$500,000 for Improvements.

The Norfolk, Virginia Beach & Southern Railroad Co., which succeeds the Norfolk, Albemarle & Atlantic, has filed a mortgage with the Guaranty Trust Co. of New York to secure a payment of \$500,000 in 5 per cent. bonds. It is understood these bonds are to be used in carrying out extensive improvements on this road and Virginia Beach, its summer resort at the terminus. The road extends from Norfolk to Virginia Beach, where the company owns the Princess Anne Hotel and a large tract of land. It is understood that additional buildings may be erected, portions of the railroad rebuilt and the line extended further into the eastern part of the State. A number of officials of the New York Central & Hudson River Railroad are interested, among them E. V. W. Rossiter, treasurer of the New York Central, whose office is in New York city.

Carrying Coastwise Cargoes.

The use of barges at sea for carrying cargoes in the coastwise trade has increased very rapidly since it was introduced but ten years ago. At first it was confined principally to the coal trade between New England ports and Philadelphia, Baltimore and the South. Now, however, barges are used in carrying ore, ice and lumber, as well as coal. Recently a large cargo of railroad ties was sent from Brunswick, Ga., to New York in tow of a tug, an unusual occurrence.

The question of towing vessels as compared with sail power is being considerably discussed among vessel men and shippers. Those in favor of steam power claim that it saves time and that a direct route can be laid out, while a sailing vessel must necessarily cover a longer distance, being dependent on the direction of the wind. A tug can also haul several barges, thus greatly reducing the cost. The subject is of much interest to the South, as the bulk of the coastwise trade is between the Southern ports and the North.

A Great Steamship Company.

The North German Lloyd Steamship Co. is one of the corporations doing a transatlantic business which has become much interested in the prospects for trade from Southern ports. Recently the Manufacturers' Record announced that the company had determined to establish a line of steamships between Galveston, Texas, and North of Europe ports. For several years it has had a service between Baltimore and Bremen for both freight and passengers, and, as is well known, it controls a large fleet of modern and powerful steamships plying directly between New York and Bremen, as well as Genoa and Naples, Italy. It is one of the most prosperous steamship companies on the globe and is increasing its business to a remarkable extent.

To give an idea of the elaborate plans of the company, it may be stated that six steamships are now under contract to be built for it. All of these, it is stated, will be placed in the American service eventually. They are being built in German shipyards and are to be vessels of a very large type. The average length is 550 feet over all, beam sixty feet and depth thirty-four feet. They will average 10,000 tons each. The cabins will contain accommodations for 100 first-class passengers and seventy-six second-class, while 2300 steerage pas-

passengers can be accommodated when the steerage decks are not needed for cargo. They will be by far the largest passenger steamers plying between this country and the Old World. The plan of construction varies somewhat from the vessels now in the North German Lloyd fleet. The forepart of each will be provided with what is known as a turtle-back deck, eighty feet in length, as a protection against unusually high seas. The machinery will develop from 7000 to 8000 horse-power, and will consist of quadruple expansion engines installed in pairs. The vessels will be equipped with twin screws, giving an average speed of about fifteen knots per hour. In addition to this machinery, apparatus for distilling water, furnishing electric lights, etc., will be placed in each vessel.

As will be noted, the steamers are intended more for carrying capacity than for speed, although they can easily make the trip between America and Europe in about eight days. The cost of these vessels is unknown, but it will aggregate several million dollars. The order is one of the largest, if not the largest, which has ever been given by a steamship company.

Southern Exports to Manchester.

The Savannah Board of Trade, through its president, Capt. D. G. Purse, is seeking to secure the establishment of a line of steamships directly between Manchester, England, and Savannah. Mr. Marshall Stevens, manager of the Manchester Canal Co., has sent President Purse a communication heartily favoring the proposed line and detailing some of the prospective business which they might secure. The Manufacturers' Record has secured the communication, which is of much importance as showing the opportunities afforded by this new route to American producers. Mr. Stevens states that all of the Sea Island cotton exported from this country is taken by about fifteen firms of spinners, who are located in the vicinity of Manchester, while three-fourths of all the American cotton used in England is said to find a market within twelve miles of the same city. While as yet no cargo of cotton has arrived directly at Manchester from an Atlantic port, a number of vessels have cleared from Galveston and New Orleans direct for that city.

Naval-store factors could also sell a large quantity annually in the territory of which Manchester is the distributing point. It is stated that seven cargoes have already been received from American ports by way of the canal. These cargoes were shipped in sailing vessels, but the consignees would favor the regular deliveries which could be made by a steamship service. The business in canned fruit is constantly increasing, 40,000 tons having already been landed at Manchester from Mediterranean ports. Fresh fruit is also shipped in large quantities on refrigerator steamers, much of it coming from Australia. There is an excellent opportunity to revive the trade in phosphate rock owing to the special rates offered by canal. This trade has fallen off greatly owing to the cost of rail transportation. Among the articles which could be furnished to make up return cargoes are chemicals, of which a large quantity is manufactured in the vicinity of Manchester; also cotton goods from Manchester and woollens from Bradford. These can be shipped at a lower rate than from Liverpool. Earthenware and salt are also staples which could be obtained.

Mr. Stevens states that the Manchester Board of Trade and the business men and manufacturers generally would do all in their power to encourage the new

line, and that if the interest of some vessel owner or steamship company is enlisted in the enterprise he believes it can easily be maintained permanently and on a paying basis.

Railroad Notes.

W. W. White has been appointed receiver of the Texas Trunk road, in place of George T. Atkins, resigned.

Paul Capdevielle has been elected president of the Orleans Railroad Co., of New Orleans, succeeding P. Cougot, who has resigned.

F. M. Gilbough has been appointed land commissioner of the Gulf, Colorado & Santa Fe. His office will be at Galveston, Texas.

N. T. Wilson has been appointed general freight and passenger agent of the San Antonio & Gulf Shore Railroad Co., with headquarters at San Antonio, Texas.

The Magnolia Belt Railroad, of Houston, Texas, has been sold to M. Young, of Chicago, Ill. The price paid was \$10,000. It is a suburban line, which has been in the hands of a receiver.

The Yazoo & Tallahatchie Transportation Co., of Vicksburg, Miss., has purchased a new boat for its service in what is known as the Yazoo trade. The boat is 150 feet long and will carry 800 bales of cotton.

The San Antonio & Aransas Pass Railway Co., at its recent meeting at San Antonio, Texas, re-elected T. E. Stillman, of New York, president; M. D. Monserate, of San Antonio, vice-president; Rengan Houston, of San Antonio, secretary, and W. H. Field, of the same place, treasurer.

For Handling Fruit.

The Pennsylvania Railroad Co. has recognized Baltimore's importance as a fruit-importing city, and has planned special facilities for handling this trade in winter as well as summer. It is intended to enlarge the wharf at the foot of Boston street, in Canton, and build a warehouse which will be heated and lighted especially for fruit storage. Tracks will be laid in the warehouse, so that cars can be run into it and the fruit loaded without coming in contact with a change of temperature even during the coldest days in winter. It is stated that Baltimore is to be a distributing point for Southern, West Indian and European fruits of all kinds.

Silk Industry in the South.

The development of the silk industry in this country has assumed such proportions as to really astonish those who have not watched its progress. According to the Bureau of Statistics of Pennsylvania, silk mills in that State produce annually about \$25,000,000 worth of silk goods. The product has increased 25 per cent. since 1890, and at present 14,000 persons are employed, receiving annually \$4,000,000 in wages. There is considerable in this statement for Southern people to think of. Silk factories ought to be as profitable in most of the Southern States as in Pennsylvania. Power is as cheap, the transportation facilities are as good, and as to raw material the Southern States have equally as good opportunity to secure it as Pennsylvania. In some other features of the industry they really have the advantage. The Manufacturers' Record believes that here is a matter which capitalists who desire a paying investment in the South would do well to investigate. While the South is building so many cotton mills, why not erect a few silk mills as well?

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

The Market for Cottonseed Products.

New York, September 8.

There is nothing of a distinctly novel character to chronicle with regard to the cotton-oil market. While activity cannot be said to be a striking feature, values are comparatively firm, when those of competing products are considered, a probable exception being tallow. Trading is light, owing to the fact that home buyers and shippers alike are holding aloof in the expectation of more favoring prices. It is known that certain buying interests are in need of supplies, and that purchases cannot be much longer deferred, whichever direction the market takes with regard to an advance or decline. Crude is still a very scarce commodity, and arrivals of new-crop oil are looked forward to with considerable expectancy. Developments in the forthcoming enormous corn crop are far from satisfactory as far as values are concerned, the lowest recorded price being quoted on the 5th at 19½ cents per bushel. The encouragement to produce lard on such cheap material looks ominous for the distribution of cotton oil, while mill-feeding products, too, will be restricted in consumption for the same reason. In view of these conditions, it is difficult to understand how manufacturers can offer higher prices for seed than those now ruling, higher prices being in some instances paid than the circumstances warrant. Notwithstanding the uncertain character of other allied and governing influences, oil values are steady, and it is improbable that lower prices will be recorded. Chicago lard, January, is quoted at 3.62½ cents, and tallow here at 3½ cents. Receipts for the week are nearly double those of the previous one, or 6000 barrels, which include through export lots. The local demand is very light for all grades, with the possible exception of summer yellow, of which a fair quantity changed hands. During the week white oil was in request, but at this writing enquiries are of an uninteresting character. Crude is neglected, although the quantity on offer is limited. Prices rule as follows: Prime crude, 19 to 20 cents; loose prime, f. o. b. mills, 14½ to 16½ cents; off-grade crude, 18 to 19 cents; prime summer yellow, 23 cents; off-grade summer yellow, 22½ to 23 cents; prime winter yellow, 30 to 32 cents; yellow butter grades, 24½ to 25½ cents; prime white, 25 to 25½ cents, and soap stock, ½ to ¾c. per pound. The demand from England and Holland is practically dead, and were it not for the Trieste and Marseilles trade, exports would cut a very insignificant figure in the business at this time. Liverpool refined, in export barrels, is a shade firmer today, and values are in sellers' favor at 15s. 6d. to 16s., and American remains very steady at 16s. to 16s. 6d. per cwt., according to quality and quantity.

Concerning cake and meal, there is nothing new to be said. Interest in these products on foreign account is increasing. Already contracts have been made ahead, chiefly in meal for Germany and cake for Liverpool, to an extent which would indicate that not a few of the crushers anticipate a steady winter's run, regardless of the present and prospective outlook concerning the business as a whole. Exports from New Orleans are 370 tons of meal and 11,000 tons of oilcake. The heavy cereal crops prove the only drawback to a practical assurance of remunerative prices for cake and meal during the ensuing fall and winter seasons.

Cottonseed-Oil Notes.

The shipments of cottonseed and its products from the port of New Orleans from August 1, 1895, to July 31, 1896, were as follows: Cottonseed oil, 5,578,153 gallons; oilcake and oilcake meal, 174,289,816 pounds, and cottonseed, 12,889,767 pounds.

A charter was granted last week to Greers Cottonseed Oil & Fertilizer Co., of Greers, Greenville county, S. C. The incorporators are D. D. Davenport, Charles Littlefield and A. R. Wood. The capital stock is placed at \$12,000, divided into 240 shares of \$50 each, 20 per cent. of which has been paid in.

A fire in the Taylor cottonseed-oil mill and gin plant, on the 3d inst., at Taylor, Texas, completely destroyed the oil mill and slightly damaged the gin, cottonseed and cotton in stalls for ginning, entailing a loss of \$25,000, insured for \$20,000. It is stated that the oil mill will be replaced this winter with brick buildings and a largely-improved plant.

The Houston market for cottonseed products shows very little change in cottonseed oil, and the tone is quiet. The Texas cotton-oil mills have lowered quotations on cottonseed meal and cake about \$1 per ton, owing to a sharp advance in ocean freight rates. The export demand for cake and meal is good, and at the old figures mills would have had a good margin of profit.

The prices for cottonseed products in New Orleans which have ruled during the past fiscal year have been very unsatisfactory, and, like other markets, a steady decline has been the rule. The range of prices since July 31, 1895, are reported as follows: Strictly prime crude oil, 19 to 24 cents; refined oil, 23 to 26½ cents; cottonseed, \$7 to \$10; meal, \$14.50 to \$19.50, and cake, \$16.50 to \$19.50.

Among the foreign and domestic exports of cottonseed and its products from the port of Galveston, Texas, for the fiscal year ending August 31, 1896, the following items are reported: Foreign exports, cottonseed oilcake, 89,996 tons, against 111,524 tons in 1894-95; cottonseed oil, 13,063 barrels, against 1825 barrels last year. Domestic exports, cottonseed meal, 2,300,000 pounds, and cottonseed oil, 19,163 barrels.

A work which promises to be of much value to the cottonseed-oil manufacturers of the country and others is a treatise on the manufacture of cottonseed oil and by-products, which has been prepared by the "National Provisioner" Publishing Co., of 284 Pearl street, New York. It is to be issued by October 15, and, the publishers announce, will give a complete description of the process of manufacture and of the many products which can be obtained through treatment of this highly valuable compound.

The market for cottonseed products in New Orleans is dull and nominal; prime crude oil in bulk, 16 to 16½ cents; prime summer yellow in barrels, 22½ cents; meal, \$16.50 to \$17 per short ton, and cake, \$18.25 to \$18.50 per long ton for export. Receivers' prices were as follows: Cottonseed, \$7 per ton of 2000 pounds, delivered net to the mills; cottonseed meal jobbing at depot, \$16.50 to \$16.75 per short ton, and \$19 to \$19.25 per long ton for export f. o. b.; cottonseed oil, 19 to 19½ cents per gallon for strictly prime crude, in bulk 16 to 16½ cents, and 23 to 24 cents for refined oil at wholesale or for shipment; oilcake, \$18.75 to \$19 per long ton f. o. b.; foots, ½ to ¾c.; linters—A, 3½ to 3½ cents per pound; B, 3¼ to 3½ cents; C, 2¾ to 3 cents; hulls delivered at 20 to 25 cents per 100 pounds, according to location of mills.

PHOSPHATES.

Phosphate Markets.

Baltimore, September 10.

In the local phosphate market the tone of trade is improving somewhat, and during the past week there has been some movement in acid phosphate. Manufacturers are buying very light, and the long-continued drought throughout the country has a tendency to depress manufacturing interests in fertilizers. At all producing points there is a better development apparent, and in South Carolina miners are working steadily. The demand for rock, however, is moderate both for home and foreign consumption. Prices show no change, and for crude rock at the mines \$3 is the figure; hot-air dried, \$3.25 f. o. b. Ashley river, and \$3.45 f. o. b. Charleston city. The Florida miners in some sections of the phosphate belt of that State are more vigorously employed, especially in the pebble district. Shipments from the Florida ports for August were over 40,000 tons. Prices are still unsatisfactory, and holders are generally firm and refuse business at present figures. The charters for September are not yet made known in their entirety, but the outlook for large shipments are not promising. The local charters during the past week were few, the only one reported being the barkentine Ninevah to load phosphate rock at St. Helena's Sound for this port. Steamer tonnage in New York is in demand, but there are few phosphate charters reported. The following are the only vessels recorded for the week: A bark, 470 tons, from Port Royal to Baltimore with phosphate rock at \$1.60; a schooner, 189 tons, New York to Richmond, Va., with fertilizer at 90 cents.

Fertilizer Ingredients.

The market for ammoniates is dull, with the volume of business limited in character. There is however, a better Southern inquiry, which is likely to result in some actual business later on. In the West stocks are not excessive, and holders are generally firm. Nitrate of soda is about steady. In New York nitrate on the spot is quoted \$1.77½ to \$1.80. London reports to date of August 29 have the following: "Nitrate of soda—The permanent nitrate committee quote cargoes off coast or due at 7s. 9d. nominal; prompt shipment, 8s. 2½d. nominal. Mr. Thomson Aikman, Jr., reports that since 24th only three direct arrivals are reported. A fraction over 7s. 9d. per cwt. is reported paid off coast for a small ordinary cargo, but tone is flat in all positions." Other descriptions of fertilizer material are unchanged.

The following table represents the prices current at this date.

Sulphate of ammonia, gas....	2 15@	—
Nitrate of soda.....	1 80@	1 85
Hoof meal.....	1 55@	—
Blood.....	—	1 60
Azotine (beef).....	—	1 60
Azotine (pork).....	—	1 65
Tankage (concentrated).....	1 50@	—
Tankage (9 and 20).....	1 40 and 10	—
Tankage (7 and 30).....	12 50@	13 50
Fish (dry).....	17 00@	17 50
Fish (acid).....	10 00@	11 00

Phosphate and Fertilizer Notes.

It is stated that the receipts from the phosphate royalty in South Carolina during the fiscal year will be sufficient to meet the interest on the State bonds.

The Norwegian steamer Lorestakken arrived at Charleston, S. C., last week from Fernandina, Fla., with phosphate, and will finish loading with cotton for Bremen.

The shipments of phosphate rock from Savannah to Europe for the year ending August 31, 1896, amounted to 67,569 tons, against 67,690 tons for the year 1894-95.

The British steamship Briukburn arrived on Saturday last at Savannah, Ga., from Rio Janeiro, consigned to J. F. Minis & Co. She is chartered to load phosphate rock and rosin for Hamburg.

The erection of the buildings for the new fertilizer factory at Columbus, Ga., will be commenced at an early date. The work of grading and preparing for the necessary tracks has been nearly completed. The factory will be located on the Southwestern Railroad, and will employ a large number of hands.

The phosphate shipments from the port of Fernandina, Fla., for August showed an increase over the previous month, the total shipments being 11,720 tons, against 6200 tons for July, being an increase of 5520 tons. The total shipments of phosphate for 1896 to August 31, inclusive, amount to 98,370 tons, valued at \$984,000.

Considerable excitement was created at South Berlin, Tenn., last week by the finding of a deposit resembling phosphate. From samples obtained the rock is similar to that mined at Mt. Pleasant. The bed, it is thought, extends through the farms of Messrs. Thomasson, Tillman, Ewing, Osborn, Barns and Hendricks. Further developments are awaited with considerable interest.

The following shipments of fertilizers through the port of Savannah, Ga., are reported for the season of 1895-96: Central of Georgia Railway Co., 48,031 tons; Georgia & Alabama Railway, 100 tons; Plant system, 17,292 tons; Florida Central & Peninsular Railway, 2002 tons; Savannah River Boat Line, 1675 tons; total, 70,000 tons. The through shipments amounted to 13,608 tons.

The following shipments of phosphate rock from Charleston, S. C., for the week ending September 4 are reported: For Baltimore, schooners Vanleer Black, 910 tons; the Josephine, 975 tons, and the Fanny Reiche, 691 tons. The schooner Fannie Brown cleared for Norfolk with 800 tons; schooner Annie L. Mulford for Philadelphia with 800 tons, and schooner Warwick for Richmond, Va., with 804 tons—total, 4980 tons.

The British steamship Lorie cleared and sailed from Savannah last week with 3950 tons of phosphate for Hamburg. The cargo was shipped by Strachan & Co. The Italian steamship Sicilia, from New York, arrived last week at Savannah to load a part cargo of phosphate rock. The British steamship Glenisle was cleared from Savannah on Friday last for Genoa, having among her cargo 1400 tons of phosphate rock.

The Charlotte Harbor Lighterage & Stevedore Co. reports the phosphate shipments from Punta Gorda for the month of August as follows: Steamship Carolina for Harwich, England, 2045 tons; steamship Paulina for Belfast, 2576 tons; schooner Lizzie M. Eells for Mobile, Ala., 144 tons; steamship Serra for Plymouth, England, 2396 tons; schooner Fannie Reiche for Washington, N. C., 620 tons; barge Three Brothers for New Orleans, 619 tons; steamship Francisca for King's Lynn, England, 3039 tons, and barge Regulator for New Orleans, 1148 tons; total, 2531 tons domestic and 10,056 tons foreign, all by the Peace River Phosphate Mining Co.; previously reported, 14,298 tons domestic and 32,290 tons foreign, making shipments to August 31, 16,289 tons domestic and 42,346 tons foreign, or a grand total to September 1 of 59,175 tons.

The following phosphate shipments from Port Tampa, Fla., for the month of August, 1896, are reported: Schooner St. Thomas for Philadelphia, 1037 tons of pebble; bark Annie Reed, New York,

994 tons of pebble; schooner Jennie Lippett, Philadelphia, 1007 tons of pebble; schooner C. S. Glidden, Baltimore, 1593 tons of pebble; schooner Tofa, Cartaret, N. J., 604 tons of pebble and 311 tons of hard rock; steamship Newcomer, Bordeaux, 2742 tons of pebble; steamship Robinir, Hamburg, 506 tons of pebble and 2019 tons of hard rock; bark Rose Innis, Cartaret, N. J., 1214 tons of pebble; schooner J. R. Teel, Baltimore, 1328 tons of pebble, and bark Prince John, Drogheda, 844 tons of pebble—total for the month, 14,259 tons. Of the above shipments 4135 tons were furnished by the Palmetto Phosphate Co., 5267 tons by the Anglo-Continental Guano Works, 3019 tons by the Bone Hill Phosphate Co., 994 tons by the Bone Valley Phosphate Co. and 844 tons by the Land Pebble Phosphate Co.

Norfolk's Commercial Growth.

The resources and present condition of Norfolk, Va., and the section of which it is the centre, are graphically described in a book recently issued by the Chamber of Commerce, and compiled by Samuel R. Borum, its secretary. The work is entitled "Norfolk and Its Environs," and contains nearly 100 pages of descriptive matter, profusely illustrated with scenes on the harbor, buildings and points in the vicinity. The statistics which Mr. Borum has compiled for this work include figures relative to the cotton, lumber, trucking, coal, peanut and oyster business; real estate transfers, export trade and the people employed in various enterprises. According to his statement, within the last twenty-one years 11,134,674 bales of cotton have been handled at Norfolk, the present average being about 500,000 bales annually. The North Carolina pine-lumber trade is estimated at 500,000,000 feet yearly, while the trucking product is valued at \$7,500,000 per year. This represents the fruit and vegetables grown on 45,000 acres of land adjacent to the city. The Lambert's Point coal trade amounts to 2,225,000 tons of Pocahontas coal per year. In 1885 the total number of steamships calling at this point were forty-five; in 1895, 500 vessels coaled here, and nearly 2000 vessels of all kinds loaded for the Northern and other markets. Nearly 1000 hands are employed in the peanut factories in Norfolk, the receipts aggregating nearly 500,000 sacks annually.

Twenty-three concerns are engaged in the oyster trade, handling 2,500,000 bushels per year and representing a capital of \$500,000, while over 3500 hands are employed in the various branches of oystering. The real estate transfers in Norfolk and vicinity have reached remarkable figures. The total amount is \$26,647,906. Of this a large sum has been paid for sites for manufacturing plants, railroad terminals and other projects which have enlisted the attention of outside capitalists.

Mr. Borum has also compiled figures relative to the factory output of Norfolk, Portsmouth and Berkley. He estimates the total value of manufactured products in these three cities for the year at \$10,000,000. The cotton mills consumed 4495 bales of cotton. In 1880 there were 105 manufacturing establishments in the cities, representing less than \$600,000 capital; in 1895 the capital aggregated \$10,000,000, distributed among 500 industries.

The grain exports from Baltimore are very heavy at present. During the week ending September 5 sixteen vessels cleared with full or part cargoes of wheat and corn. The total amount was 80,000 bushels of wheat and 896,391 of corn.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

Textile Notes.

The Natchez Cotton Mills, of Natchez, Miss., has resumed operations.

The farmers of Carrollton, Carroll county, Miss., are tying their cotton with wire ties, in opposition to the tie trust, and merchants are accepting bales tied in this manner.

The new Meridian Cotton Mills, of Meridian, Miss., have commenced operations. This plant will by October 1 be running day and night, employing in all 350 skilled operatives, producing from 25,000 to 40,000 yards of goods daily. When in full operation the mill runs 6240 spindles and forty-eight looms.

The Wadesboro Cotton Mills, of Wadesboro, N. C., has completed sixteen new cottages for the use of its operatives. The plant is now running double time. The company has in contemplation the erection of an addition to contain 6700 spindles, which is the number they have in operation now; or, instead of the spindles, may install enough looms to weave the product of the 6700 spindles.

What is stated to be the largest single consignment of tobacco ever received in Macon, Ga., was recently shipped to that city from Winston, N. C. It consisted of a solid carload of chewing tobacco.

On August 12 the government of Costa Rica abolished its tobacco monopoly, allowing free cultivation of tobacco in the entire area of the republic. This opens a new market to American manufacturers for agricultural implements and tobacco machinery and a new field for American enterprise in tobacco-growing. The cessation of this monopoly opens also a valuable source of supplies to the American tobacco manufacturers, because the conditions and qualities of soil and climate of a large part of Costa Rica are such that there can be raised a fine quality of tobacco, equal to any now raised in Cuba. Mr. Gustavo Niederlein, of Philadelphia, the consul of Costa Rica, will furnish any particulars desired.

Superficial Examination of Ores Free

The Manufacturers' Record, seeking to turn attention to the mineral resources of the South and to aid its readers in the intelligent investigation as to what may or may not be of value, has arranged with Mr. Charles Catlett, chemist and geologist, of Staunton, Va., to make superficial examinations of samples without charge. Such samples will be reported in the Manufacturers' Record, with a word of explanation as to probable or possible value. Such an examination is necessarily superficial, and does not comprise a quantitative analysis, which, where desired, is charged for.

The following directions should be observed:

Samples should be sent to Charles Catlett, No. 10 New Court House street, Staunton, Va., with all mail or express charges prepaid. The name and address of sender should be clearly stated on package.

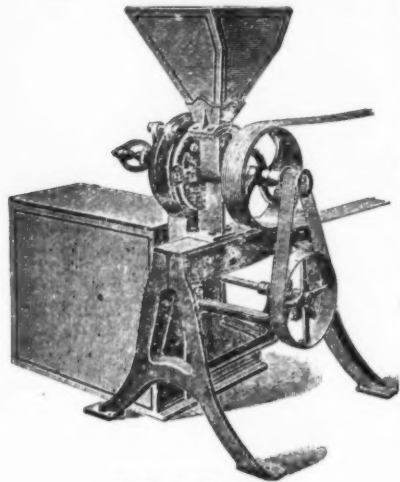
Care should be taken to select an average sample, otherwise the examination will prove of no value. Quite a small quantity will be sufficient.

A postal card or letter to Mr. Catlett, with a word of explanation as to mode and exact location of occurrence, would assist in giving value to the examination.

MECHANICAL.

A General Grinding Mill

An illustration on this page shows a mill adapted for general use for grinding any cereal, single or mixed, such as wheat, corn, rye, barley, oats, buckwheat and chop feed. It can produce cornmeal and oatmeal, or fine, even Graham flour, for table use with the same facility as



PARAGON MILL.

coarse feed. It is known as the Paragon feed and meal mill, and is made by the Paragon Mill and Machine Works, 44 South Jefferson street, Chicago, Ill.

Special attention has been given to the grinding surface. It consists of a running and a stationary disk, each of which is composed of three rifled and hardened

against each other when running empty. is thus avoided.

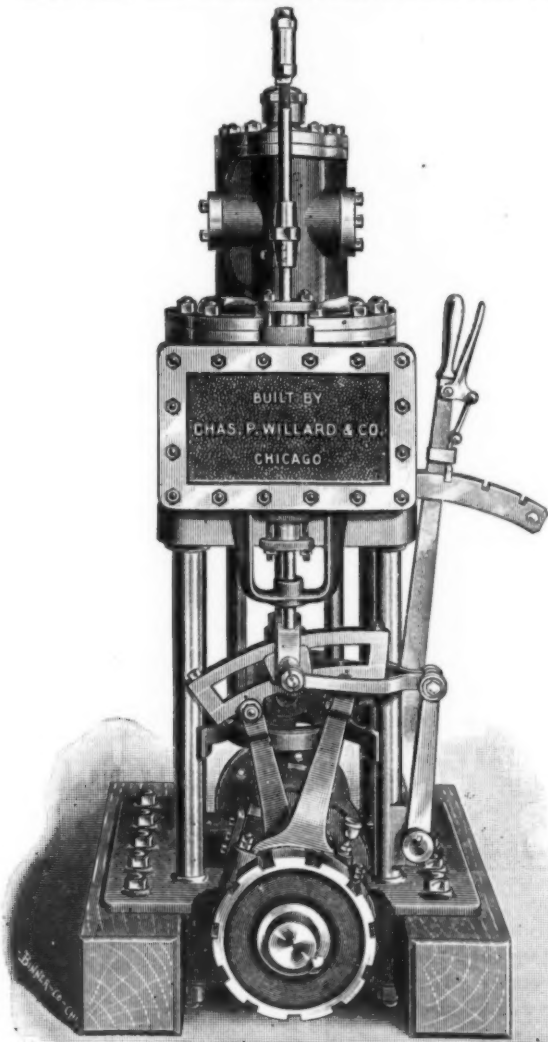
The Paragon mill illustrated shows the grinder connected with a very effective bolter of novel construction. It is entirely dust-proof, avoiding all loss of material, and can be quickly detached from the grinder when so desired.

New Tandem Compound Marine Engine.

The accompanying engraving shows a new steple or tandem compound marine engine now being built in small sizes by Chas. P. Willard & Co., of Chicago. The particular engine from which the engraving was made is a 6 and 12x6, occupying a space in the boat above the bedplate of only eighteen inches athwartship and two feet fore and aft, and developing, when used in connection with a high-pressure water-tube boiler, about eighty indicated horse-power.

This type of engine, approximating very closely in economy to a fore-and-aft compound, it is claimed, represents the maximum of power in a limited space, taking up no more room in a boat than the ordinary single-cylinder engine commonly used, and representing greatly-increased efficiency and high economy in fuel.

As shown in the engraving, the cylinders rest upon an entablature supported by four polished steel columns. All parts of the engine are open and accessible. The high-pressure piston rod passes through a bronze sleeve between the two cylinders, and is water-packed. If buyers



NEW TANDEM COMPOUND MARINE ENGINE.

steel rings. These rings are rifled on both sides and made reversible, thus perpetuating the sharpness of grinding surface. The rings can be resharpened in any ordinary blacksmith shop.

The mill is easily and quickly set from coarse to fine while in motion by a patented method of adjustment, which holds the runner in control, preventing a contact with the stationary disk. All danger of sparks, resulting from disks grinding

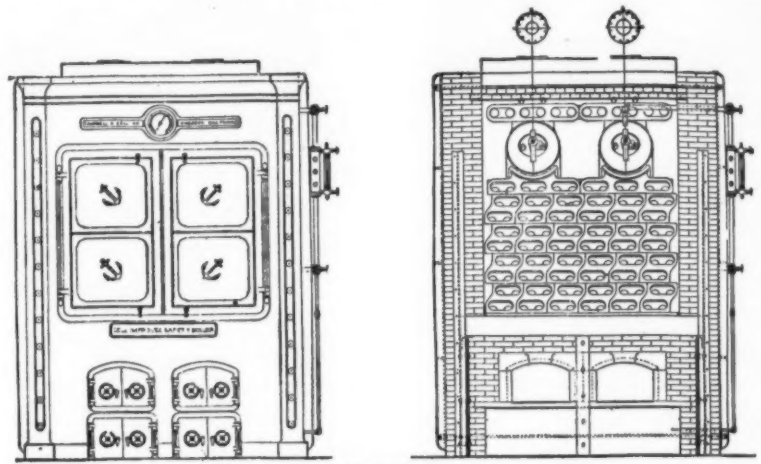
prefer a distance-piece between the two cylinders, with stuffing-boxes, it is furnished, but the other form of construction is recommended by the manufacturers.

The eighty horse-power engine shown in the engraving occupies a space above the floor of 18x24 inches; height above foundation timbers, fifty-three inches. Further information may be had from the manufacturers, Chas. P. Willard & Co., 197 South Canal street, Chicago.

Zell Boiler Improvements.

The "Zell" improved water tube safety boiler has been improved in its mechanical construction as follows:

The fronts, including all doors and other parts, are made much heavier throughout, and are of the most improved patterns. The new fronts are of a plainer design, giving them a more attractive appearance. The steam gage is now placed on the front above large doors, thereby securing better light to enable the gage to be more easily read. Arch box, on which is placed the expansion roller for supporting the front end of sections and allowing expansion, is now tied by angle



FRONT ELEVATION

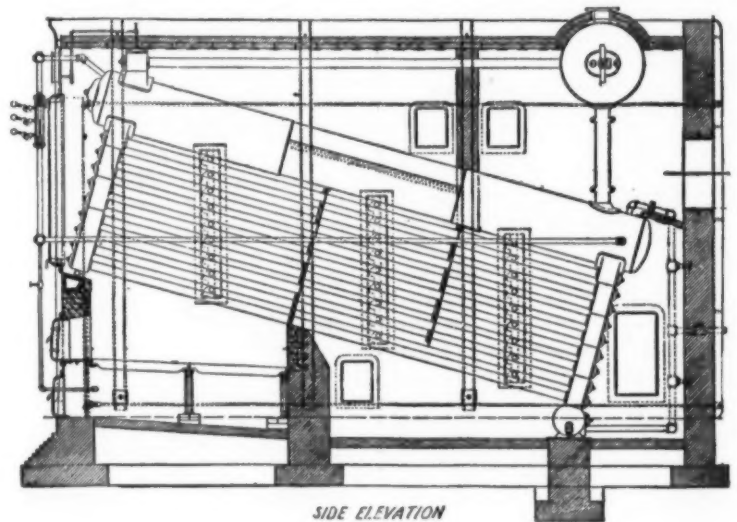
connections to I beams which are placed on either side of the boiler. The wrought-iron front is bolted to the flange of I beam, and I beam is tied by rods and angle connections from the back flanges through the brickwork to the rear buck stays. No foundation bolts or arch box stools are required, as the I beams are fitted into a plate resting directly on the front wall.

The buck stays are now made extra heavy in I form instead of T form as previously. Heads of all drums are made of wrought steel. The stand pipe tube, placed between bottom of steam drum and at rear end of water drum, is now set vertically instead of at an angle. The

more, manufacturer of this boiler, aims to constantly make improvements consistent with the best boiler practice. Its general construction and relation of parts have not been altered, and therefore embody as before the many merits of its construction covering such points as provisions for expansion, accessibility of parts, minimum repairs, etc. The superheating feature which is found in the "Zell" enables it to easily furnish perfectly dry and superheated steam. On the advantage of this we quote from a paper read by Dr. R. H. Thurston before the last meeting of the American Society of Mechanical Engineers:

"The reduced expenditure of steam at

the engine makes the demand upon the boiler less than otherwise would be noted, and thus the quantity of steam made per unit of heating surface area being reduced the result must always be, in good practice, a gain of efficiency at the boiler. The added heating surface of the superheater gives a still further gain by precisely the same sort of increase of efficiency, and, the two effects conspiring, a gain in steam utilization at the engine is found to have a corresponding gain at the boiler, in consumption of fuel, that may be very considerably greater numerically. As with the steam jacket, or with compounding on the locomotive, a gain of 20 per cent. in steam consumption may



SIDE ELEVATION

be accompanied by gain in fuel expended for a stated power and work of 25 per cent. or even more.

"Superheating has for its sole purpose and result, in the steam engine today, the extinction or reduction of the internal thermal wastes of the engine consequent upon the phenomenon known as initial or 'cylinder condensation.' Here it is extraordinarily effective, and a small quantity of heat expended in superheating the entering steam effects a comparatively large reduction in the expenditure of steam in the engine, each thermal unit thus employed saving several thermal units otherwise wasted.

The Campbell & Zell Co., of Balti-

"Superheating is superior to any other

known mea
waste. Jac
but a fracti
ruple cylinde
rions, while
extinguish i
due the res

wet ste
ports, r
vacuum
correspo
of the c
mande
"Super
proves
the eng
superhe
entirely
gain at
fuel, no
sumpti
"The
said, w
most fa
of fuel
its own
obvious
with th
each d
will pa
alent o
engine
ing ay
ranges
about

Impro
The
seats
introd
latest
sawin
timber
panels
in the
is mad
The

known means of reduction of internal waste. Jacketing ordinarily suppresses but a fraction of that waste, and the multiple cylinder engine has also its limitations, while superheating may not only extinguish it, but may also check wastes due the resistance to flow of the denser,

inches wide and thirteen inches in thickness; will resaw to the centre of ten inches, and will saw from the side of timber eight inches thick. The saw kerf removed is very slight, as saws of the thinnest possible gage may be used with perfect safety. Short pieces of material

and instantly adjusted to any desired height above the platen, and held in position by a counterbalance. It can instantly be thrown out of the way, and is self-locking. The bearing points in the guide are of soft metal, reducing friction and heating to a minimum. The lever to raise and lower the guides is placed overhead, and may be connected to a wood lever placed conveniently to the operator. With the machine is furnished one saw blade, full set of wrenches, blue print to aid in setting up, etc.; weight of the machine, 6600 pounds. The tight and loose pulleys are thirty inches in diameter, eight and one-half inches face, and should make 550 revolutions per minute.

The manufacturers are J. A. Fay & Co., 270-290 West Front street, Cincinnati, Ohio.

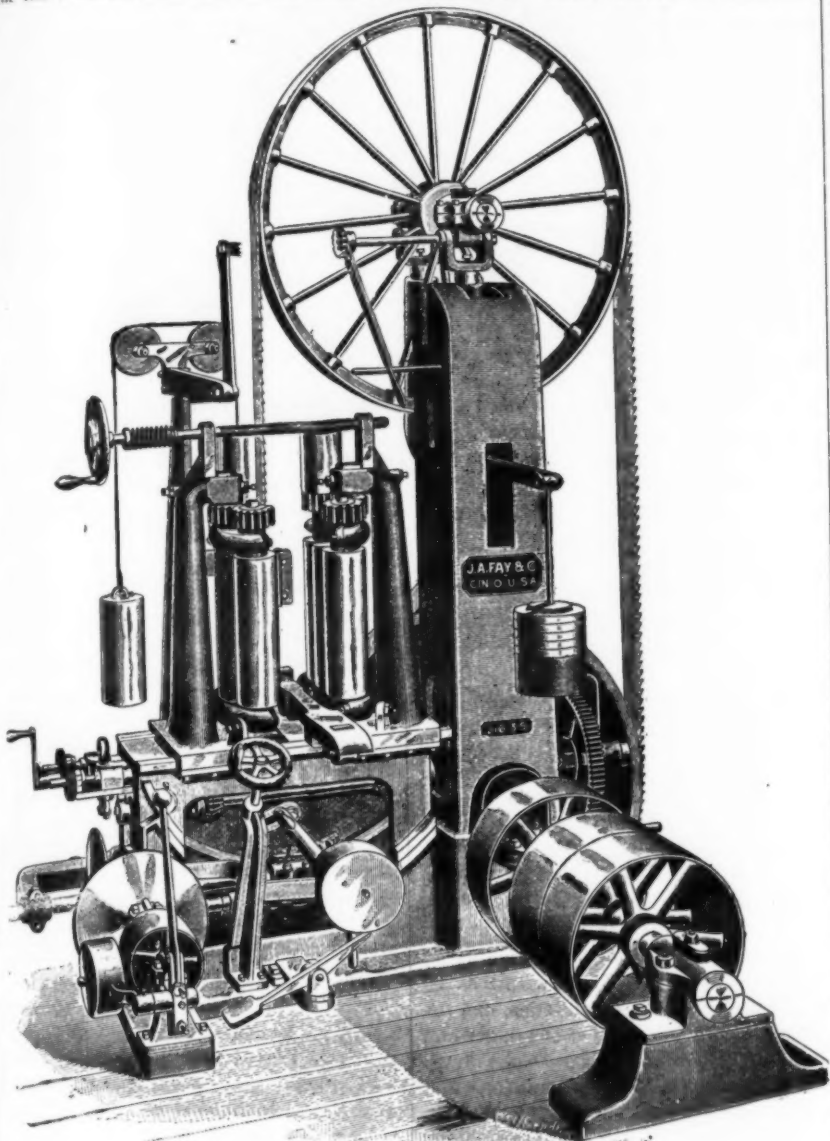
Improved Swing Saw.

A device for which much use is found is the pendulum or swing saw. These machines possess valuable advantages for certain classes of work and are an important part of a shop's equipment. We illustrate an improved machine of this kind made by E. & B. Holmes, Buffalo, N. Y. The makers warrant this machine to cut as square and true as railway saws, being counterweighted to stop in any position, and well-screened to protect the operator. These features, coupled with

Corn for Mexico.

A dispatch from Waco, Texas, announces that the demand for corn in Mexico is so great this year that very large quantities are being hauled by the railroads terminating at the Rio Grande for delivery in that country. The Missouri, Kansas & Texas is sending solid trainloads of corn. The very large crop in the United States enables shippers to place the grain in Mexico at a price which enables them to control the market in some sections of the republic.

Mr. William Cameron, one of the leading lumber operators in Louisiana and Texas, in a letter to the New Orleans Lumber Trade Journal about the political situation, says: "I would state that I am strictly a sound-money man, and do not see how good business men can be otherwise, and I trust that before the November election comes that our brethren who are now wandering around after strange gods will return to the proper path and the future welfare of our country be properly taken care of, for with free silver the hard times which all lumbermen have recently passed through would be as nothing compared with what we might have reason to expect. With the success of free silver and free trade in the next election will come to all classes of business poor trade and heavy losses. The lumbermen of the South (of course, not



IMPROVED BAND RESAWING MACHINE.

wet steam through steam and exhaust ports, and may sensibly improve the vacuum attainable in the condenser, with corresponding reduction of back pressure, of the quantity of condensing water demanded, and of the load on the air pump.

"Superheating even a few degrees improves considerably the performance of the engine, and, in the average case, superheating 100 degrees Fahrenheit will entirely extinguish that waste. It is the gain at the furnace and in the cost of fuel, not that at the engine in steam consumption, which measures its importance.

"The average simple engine may be said, under such conditions as we are most familiar with, to demand a quantity of fuel annually about equal in value to its own first cost. In such cases it is obvious that under these conditions, and with the above return of \$5 in saving to each dollar paid to thus reduce waste, it will pay to annually expend the full equivalent of the interest on the price of the engine in maintaining a good superheating system. The gain secured actually ranges from 10 to 50 per cent., averaging about 25 per cent."

Improved Band Resawing Machine

The accompanying illustration represents a new No. 7 band resaw, which is introduced to producers of lumber as the latest and best machine for general resawing. It is capable of resawing large timbers, as well as converting lumber into panels, picture backing, box material, etc., in the most rapid and perfect manner. It is made to saw straight or beveling.

The machine will resaw material thirty

may be resawed, owing to the position of the rolls with relation to the blade.

The wheels are made entirely of iron and steel, with spokes placed in the upper wheel in a staggering position, adding strength to the wheel. The lower wheel is a solid web wheel of ample strength and weight, and being much heavier than the upper one, the driving capacity is much more perfect; wheels are fifty inches in diameter and five inches in width of face, supported on shafts two and eleven-sixteenths inches in diameter, with three long self-lubricating bearings, there being an outside bearing supporting each wheel on each side of the column, relieving them of the strain that attends all machines not so provided.

The saw is strained by an improved method, is sensitive in its action, and overcomes tendency to vibration in its movements. Usually a five-inch blade is furnished, but narrow blades may be used when desired.

The feed is exceedingly powerful, consisting of four large feed rolls five inches in diameter, strongly geared and controlled by a graduated plate friction while the machine is in motion. The rolls, with their supporting frame, are arranged to tip to an angle of fifteen degrees when desired, but when bevel sawing is not required they are made stationary, at a reduction in cost. The feed is from 0 to 100 feet per minute. A foot treadle is furnished and located conveniently to the operator to raise the feed roll weight and instantly remove the pressure from the material being worked.

The upper guide is controlled by a lever



IMPROVED SWING SAW.

superior strength and durability, low price and general efficacy, make it a desirable tool. These machines are manufactured in four sizes; tight and loose pulleys, ten inches in diameter, five-inch face; weight, 450 pounds; contains forty-seven cubic feet; sizes, five feet, six feet, seven feet and eight feet swing.

including yellow-pine men, for they are now suffering as they never suffered before from depressed business conditions,) would be in the same boat with white-pine men in the North, and we should join with all good business men and do what we can to elect a sound-money man in November."

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Lumber Directory.

Readers of the Manufacturers' Record who may be in the market for lumber of any description are recommended to the directory of Southern lumber manufacturers and dealers which appears among the advertising pages.

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,
Baltimore, Md., September 10.

The conditions surrounding the local lumber market are practically unchanged, and the volume of business recorded during the past week has been light. In the yellow-pine trade the movement is without any vigor, and for air-dried material prices are down as low as they can possibly go. The demand from all sources for yellow-pine is not active, while stocks are being somewhat reduced. A few sales were recorded during the week in kiln-dried North Carolina pine, but the tone is quiet and market easy. White pine is selling in small lots, and the market is steady, with stocks ample for all requirements. Cypress is dull, with values about steady. The hardwood market shows very few signs of any decided business, and furniture factories that usually purchase largely are mostly running on three-quarter time, and are only buying to satisfy immediate wants. The export trade is improving somewhat, but very few shipments on commission are going forward, the bulk of the exports being to fill contracts. There is a fair demand for American hardwoods in Europe, and the shipments now going forward from this port generally meet all requirements of the market in Great Britain and the Continent. Stocks on the other side are not excessive, and in oak the situation is summed up as follows: Stocks on hand in London on August 15, 1895, were 344 loads, against 320 loads on the same date in 1895.

The following list represents the prices current at this date:

[The quotations for yellow pine are for cargo lots, and for all hardwoods the figures indicate values for choice car lots.]

VIRGINIA AND NORTH CAROLINA PINE		
5-4x10 No. 2, kiln dried.....	\$12 50@	13 50
5-4x12 No. 2, kiln dried.....	17 50@	18 50
4-4x10 No. 1, kiln dried.....	15 00@	15 50
4-4x12 No. 1, kiln dried.....	15 00@	16 00
4-4 nar. edge, No. 1, kiln dried.....	13 00@	14 00
4-4 wide edge, No. 1, kiln dr'd.....	17 00@	18 00
6-4x10 & 12, No. 1, kiln dried.....	23 00@	24 00
4-4 No. 1 edge floor., air dried.....	13 50@	14 50
4-4 No. 2 edge floor., air dried.....	10 50@	11 50
4-4 No. 1 12-in. stock, air dried.....	13 50@	14 50
4-4 No. 2 12-in. stock.....	11 00@	12 00
4-4 edge box or rough wide.....	7 50@	8 00
4-4 edge box do. (ord. width).....	6 50@	7 00
4-4 12-inch rough.....	9 00@	9 50
1/2 narrow edge.....	5 00@	6 00
1/2 wide.....	6 50@	7 50
3/4x9 1/2 and 10 1/2-inch.....	8 00@	9 00
Small joists, 2 1/2-12, 14 and 16 long.....	7 00@	8 00
Large joists, 3-16 long & up.....	8 00@	9 00
Scantling, 2x3, 2x4 and 3x4.....	7 00@	8 00

WHITE PINE.		
1st and 2d clear, 4-4, 5-4, 6-4 and 8-4.....	47 50@	48 50
3d clear, 4-4, 5-4, 6-4 and 8-4.....	42 50@	43 50
Good edge culls.....	14 50@	15 50
Good stock.....	16 50@	17 50

CYPRESS.		
4-4x6, No. 1.....	17 50@	18 50
4-4x6, No. 2.....	12 50@	14 50
4-4x6, 16 feet, fencing.....	10 50@	11 50
4-4x6, rough.....	8 50@	9 00
4-4 rough edge.....	8 00@	8 50
4-4 edge, No. 1.....	16 00@	17 00
4-4 edge, No. 2.....	11 00@	12 00
Gulf, 4-4, Nos. 1 and 2.....	28 50@	30 50
Gulf, 6-4, Nos. 1 and 2.....	31 50@	32 50

HARDWOODS—WALNUT.		
5-8, Nos. 1 and 2.....	65 00@	75 00
4-4, Nos. 1 and 2.....	80 00@	90 00
5-4, 6-4 and 8-4.....	85 00@	95 00
Newell stuff, clear of heart.....	85 00@	100 00
Culls.....	20 00@	30 00

OAK.		
Cabinet, white and red, Southern, plain-sawed and good, 1 and 2, 8 inches and up, 12 to 16 feet long, 4-4.....	30 00@	34 00
Quartered white, Western, 1 and 2 quality, all figured, 6 inches and up wide, 4-4.....	53 00@	55 00
Culls.....	10 00@	15 00

POPLAR.		
Nos. 1 and 2, 5-8.....	24 50@	25 50
Nos. 1 and 2, 4-4.....	28 00@	30 00
Nos. 1 and 2, 6 and 8-4.....	32 50@	33 50
Culls.....	13 00@	16 00

SHINGLES.		
Cypr., No. 1 h'rta, sawed, 6x20.....	7 00@	7 50
No. 1 saps, sawed, 6x20.....	5 00@	6 00
No. 1 hearts, shaved, 6x20.....	6 00@	7 00
No. 1 saps, shaved, 6x20.....	5 00@	6 00

LATHS.		
White pine.....	2 65@	2 70
Spruce.....	2 10@	2 20
Cypress.....	2 10@	2 20

Charleston.

[From our own Correspondent.]

Charleston, S. C., September 7.

The new fiscal year opens with the lumber market rather quiet. There is, however, a fair demand, but prices rule so low for even the most desirable grades that manufacturers are not disposed to seek much business at ruling prices. At all saw-mill centres adjacent to this city business is moving along as usual, and mills are generally operating, while stocks are generally well assorted and holders prepared for future business. There is a good movement in the crosstie and shingle industries, while there is a good demand at fair prices. The market on Saturday closed about steady at the following quotations: Merchantable lumber, \$14 to \$16 for city-sawed, \$12 to \$14 for railroad; square and sound, \$9 to \$13 for railroad, \$8 to \$11 for raft; dock timber, \$4.50 to \$6.50; shipping, \$8.50 to \$10.50. Shingles are in fair demand at \$5 to \$7 per thousand. The shipments of lumber during the past week aggregated 1,643,455 feet, distributed as follows: New York—Schooner James Davidson, 300,000 feet; schooner D. K. Baker, 361,455 feet; schooner Georgetta Lawrence, 242,000 feet, and Clyde steamer Iroquois, 40,000 feet. The schooner Florence Randall cleared for Boston with 500,000 feet of lumber, and schooner Julia A. Warr for Fall River with 200,000 feet. Lumber freights are firm at ruling rates, say, \$4.38 to \$4.50 from this port to New York. A charter was closed of a schooner from Wilmington, N. C., to Beverley, Mass., at \$4, and a schooner from Georgetown to New York at \$4.25.

Savannah.

[From our own Correspondent.]

Savannah, Ga., September 7.

There is a fair movement in lumber from this port, and the outlook is somewhat more encouraging. A number of inquiries, both foreign and domestic, have been received this week, and there is likely to be a steady run of business during the fall and winter months. As to prices, while they do not appreciate, there is every prospect of a firm market, and with any urgent demand a slight advance may be recorded. The fiscal year just ended shows this market to have stood up well under the year of depression in this industry, and withal has showed an increase in the volume of business over 1894-95. The News, in its review of the lumber industry for the year 1895-96, says: "The lumber business of Savannah stood up well under adverse conditions of trade during the year. * * * At times during the year prices hardened somewhat, but altogether the range of quotations were steady and unchanged. The mills of the city and the adjacent territory were kept steadily at work, and the commercial advantages of Savannah and her superior banking facilities secured the increased amount of business." The total shipments of lumber from this port from September 1, 1895, to August 31, 1896, by months were as follows: September, 10,000,439 feet; October, 9,392,133 feet; November, 11,182,474 feet; December, 10,648,391 feet; January, 9,952,848 feet; February, 11,074,072 feet; March, 13,590,529 feet; April, 12,553,679 feet; May, 14,898,367 feet; June, 15,102,214 feet; July, 9,933,773 feet; August, 16,641,092 feet, making a total of 144,570,911 feet. The foreign shipments amounted to 8,006,566 feet. The coastwise shipments were distributed as fol-

lows: New York, 25,460,308 feet; Philadelphia, 29,101,042 feet; Boston, 22,636,430 feet; Baltimore, 29,603,321 feet; Perth Amboy, N. J., 8,658,736 feet, and other ports, 21,503,608 feet, making a total of 136,963,445 feet. There was a heavy demand in crossties during the past year, and the industry at the moment is in a very healthy condition. The market closes this week with a good inquiry from Northern ports, and the outlook in the Eastern markets for pitch pine is very encouraging.

Jacksonville.

[From our own Correspondent.]

Jacksonville, Fla., September 7.

In almost every avenue of the lumber industry the volume of business at this port for the month of August was fair, and while the shipments were about 1,000,000 feet less than July, there was an active demand. Saw mills at all points adjacent to this city are running constantly, and seem to have plenty of business, although prices are at such a low range. The exports to coastwise ports in August were as follows: Yellow-pine lumber, 7,809,000 feet; cypress lumber, 504,000 feet; cypress shingles, 19,100 bundles and 856,800 in bulk, and crossties, 26,000. During the month of July the shipments were 8,871,778 feet of lumber, 815,800 shingles in bulk and 26,100 bundles, and 1300 crossties. During the past week over 2,000,000 feet of lumber and other wood products have been shipped, and from the number of vessels now loading and to arrive during the next ten days the business of the current month will be very large. The following vessels cleared during the past week: For New York, the Clyde steamers Algonquin with 350,000 feet of lumber and 3000 bundles of shingles; George W. Clyde with 250,000 feet of lumber and 4000 crossties, and the Seminole with 250,000 feet of lumber and 100,000 shingles in bulk; schooner J. B. Holden, 330,000 feet of lumber, and schooner Charles A. Gilberg, 360,000 feet. The schooner R. S. Graham cleared from Philadelphia with 270,000 feet, and schooner Hazel Dell for Dominica Island with 67,000 feet. Freight rates to New York on lumber from this port are lower at this time than ever before. The rate now charged is \$4.85, and only one charter has been made at a higher figure for several months, and that at \$5.25. A charter was reported in New York last week of a schooner, 337 tons, from Jacksonville to Philadelphia at \$4.25.

Pensacola.

[From our own Correspondent.]

Pensacola, Fla., September 7.

Business in the timber line here has been rather quiet since the month opened and the demand not so brisk as usual. There is, however, a number of inquiries coming forward, and manufacturers and shippers are preparing for a good demand later on. A very important meeting of shippers, manufacturers and timber inspectors was held at Ferry Pass last week for the purpose of adopting a classification of sawn timber which shall govern future operations. The meeting was strictly a representative one and harmonious in every feature. A committee was appointed to draft and submit a classification, which was considered and discussed and finally adopted. There is a good demand for lumber for export, and the South American trade has been very brisk lately. Saw mills are all busy and have as much business on hand as they can well manage. Some very large bills are now on file, and manufacturers are generally encouraged with the outlook. During the past week the following vessels cleared from this port: Steamship Nith for Newport, England, with 10,670 cubic feet of

hewn timber and 1,369,000 superficial feet of sawn timber; bark Birmah for Antwerp with 575,000 feet of lumber; bark Guiseppe Cappadona for Palermo with 31,000 superficial feet of sawn timber and 391,000 feet of lumber, and bark Rosenberg for Rio Janeiro with 553,000 feet of lumber. Among the charters reported in New York last week were the following: A schooner, 510 tons, hence to Washington, D. C., with lumber at \$5.50; a Norwegian bark, 1195 tons, hence to Montevideo or Buenos Ayres with lumber at \$12.50 net, and a schooner, 235 tons, Pascagoula to New York at \$5.50.

New Orleans.

[From our own Correspondent.]

New Orleans, La., September 7.

At this period of the season the lumber industry is generally quiet, the closing up of the old business year and the opening of the new being generally devoted to settlements and the inauguration of new plans for the future. The general lumber market is at the moment in a fairly satisfactory condition. Business men, as a rule, seem to be devoting considerable attention to the political campaign, and many of those engaged in the lumber industry do not expect much trade until after the election. The demand, however, will likely set in when the crops begin to move, and there is already a better demand from some sources for yellow pine. Prices are uncommonly low, and many of the mills along the several lines of road entering this city have curtailed their output. Some of the mills are shutting down for a few weeks on account of the partial failure of the cotton crop, notably those in the western section of this State and in East Texas. The demand for yard stock is poor, while orders for bill stuff are showing up better. The foreign demand both here and at other Gulf ports is quite active at the moment, and all the mills engaged in this trade are fully employed with numerous orders sufficient to keep them running for some months to come. That the export of lumber and timber is taking on a decided form and demand is evident in the movement of exporters and the number of inquiries coming from abroad. A contract was closed recently by the Poitevant & Favre Lumber Co., of this city, with W. F. Kaiser & Co., of Pensacola, for 20,000,000 feet of lumber. A steamer will commence to load about 5,000,000 feet in a few days, and will clear from Biloxi, Miss., for a port in the United Kingdom. Cypress lumber is holding its own remarkably well, and while the supply in many instances has exceeded the demand, holders are generally firm in their views and refuse to make concessions in order to effect sales. The Southern Cypress Lumber and Shingle Association, which embraces the larger red cypress mills of this State, is almost perfect in its organization, and all contracts and agreements made by its members are rigidly adhered to. During the period of depression price-lists have been maintained, and the organization today exercises a powerful influence for good on the general cypress industry of this State. It is stated that this section probably produces each year about 400,000,000 feet of cypress lumber, which is shipped to all parts of this country. The combined capacity of the mills belonging to the Louisiana Cypress Lumber and Shingle Association is said to be about 250,000,000 feet. In cypress shingles there is an extensive trade being cultivated, and at present there are a number of mills engaged in manufacturing to supply the demand which will shortly set in. During the current year there has been a good demand in the building line, and architects and builders

superficial
mah for
lumber;
Palermo
awn tim-
and bark
553,000
arters re-
were the
s, hence
lumber at
95 tons,
os Ayres
and a
to New

ut. J
umber 7.
the lum-
the clos-
and the
generally de-
inaugura-
are. The
moment
on. Busi-
devoting
political
engaged
not expect
tion. The
t in when
ere is al-
sources
commonly
g the sev-
city have
the mills
weeks on
of the cot-
e western
st Texas.
oor, while
ing up bet-
here and
ive at the
engaged in
with num-
them run-
That the
taking on
is evident
s and the
um abroad.
ly by the
o., of this
., of Pen-
lumber. A
oad about
, and will
port in the
lumber is
well, and
stances has
are gener-
refuse to
effect sales.
lumber and
embraces the
is State, is
ation, and
made by its
to. Dur-
price-lists
e organiza-
influence
ss industry
at this sec-
year about
lumber, which
is country.
e mills be-
ess Lumber
said to be
In cypress
e trade be-
at there are
n manufac-
which will
current year
and in the
and builders

are generally satisfied with the outlook. The total amount invested during the year ending July 31, 1896, for construction and repairs in this city, as given by the city engineer, was \$2,506,256, against \$3,084,374 in 1894-95. The St. Charles Hotel, however, represented \$500,000 and was embraced in the permits for 1895. The receipts of building material at New Orleans from August 1, 1895, to July 31, 1896, are reported as follows: Lumber, 166,070,628 feet; shingles, 48,153,000; laths, 23,713,000; brick, 40,105,000; sand, 518,515 barrels; cement, 344,667 barrels; fire-brick, 1,378,700; cypress staves, 2,015,920, and oak staves, 4,065,211.

Beaumont.

Beaumont, Texas, September 5.

Shipments during the past month, contrary to expectation, have exceeded those for July by a nice little plurality. There were over 1400 cars shipped from Beaumont and East Texas points during August, against a total of 1330 for July, which latter month had the best record up to that time for this year. This, of course, does not necessarily indicate that the business is good all round, for most of the material was consigned to vessels at Sabine Pass, whence it was exported, thus showing that most of the cars shipped contained rough material from the saw.

At Orange the shipments by rail for the month of August were 485 cars, against 635 cars in August, 1891, 858 cars in 1892, 370 cars in 1893, 470 cars in 1894 and 1029 cars in 1895. Most of the material that Orange has shipped during August likewise consists of rough-sawn material for shipment either to foreign countries or to the East.

Business in the lumber districts has not improved to any appreciable extent, although the prospects are much better, and the actual receipt of orders exceeds last week's receipts, but not by enough to boast of. The dealers seem still to prefer not buying until it has actually been demonstrated what the crop movement will be, and although this has begun to move, it has not done so in sufficient quantity to form an idea of what the gross receipts will be. Quite a number of farmers are disposed to hold their cotton for better prices, even though the price reigning when their cotton is brought to town be a good one from the manufacturers' standpoint. The other day cotton dropped about three-quarters of a cent, and scared off all the farmers from selling a single bale; three days after it jumped up again, and as a consequence the farmer deemed it advisable to sell to some extent.

Collections are somewhat better than they were a month ago, and here and there a dealer is paying his acceptances. However, much in this line cannot be looked for by the manufacturer before 1st of November from the fact that all the farmers' notes are not payable until between October 15 and November 1, and consequently the merchant cannot force him to sell his cotton if he be minded not to do so.

The mills are all loaded on timber bills and have all they can do to get out what they have on the books. The log famine at Orange is becoming quite serious, and several of the mills will have to be shut down indefinitely if rain does not soon cause the Sabine river to rise and thus enable the loggers to get down a raft of logs. In other sections the drought, which has been unbroken here for almost three months, is causing mills to shut down from the fact that they cannot get water to run their engines. Village Mills Co. can only run very irregularly

on this account, no water being obtainable, despite the fact that wells have been sunk. Several other mills located on the Sabine & East Texas road are in the same condition, and are not able to run much. This comes particularly hard on them, as just now there is a plentitude of tie orders afloat, which is something that the smaller mills back in the woods can cut all day and night, as logs to make ties can be found almost anywhere.

The export business has no change in it since last report. Orders are plentiful, and, in fact, there are a good many more offered here than the mills can take care of. Vessels are arriving and departing almost every day at the Pass, and this is becoming so regular that the noting of a ship's arrival or departure is no longer an item of interest.

There was a large concatenation of the Great Hoo-Hoo held at Orange last night, and a great time was had by all present, even the Kittens enjoying the fun—after the initiation. Some twenty to twenty-five purblind kittens were led through the awful experiences of the Great Snark and emerged full-fledged Hoo-Hoo. An elegant banquet was afterwards served under the supervision of that popular lumberman, D. Tramway Call.

T. E. Spottswood & Co., of Mobile and Beaumont, exporters, have been granted a ten years' franchise by the county commissioners' court to construct a wharf at Sabine Pass.

B. S. WOODHEAD.

Lumber Notes.

The steam saw mill and gin of P. A. Luke, near Poplar Grove, Ark., was burned last week. Loss about \$2000, with no insurance.

The mills of the Aldridge Lumber Co., at Rockland, Texas, are running regularly, and the company reports orders fair and prices slightly improving.

The planing mill owned by Lewis S. Blanton, near Ashland, Va., which cost, with machinery, \$4500, was destroyed by fire last week. There was no insurance.

The Southern Pacific Railroad has reduced rates on lumber from Lake Charles, La., and Beaumont, Texas, to Galveston from 8¼ to 5½ cents per 100 pounds.

Mr. D. Call, president of the Cow Creek tram, states that their new mill at Call, Texas, will start up about the 5th inst. The company has some large export orders to start on.

The exports of lumber from the port of Brunswick, Ga., during the month of August, 1896, amounted to 11,916,000 feet; of timber, 364,000 feet; crossties, 79,645, and shingles, 400,000.

A fire at Harrisonburg, Va., on the 6th, destroyed the entire plant of the Harrisonburg Stave and Heading Works. The loss is not accurately known, but may reach \$6000 to \$8000.

The big lumber mills of the Villa Rica Lumber Co., near Bynums, Ala., were destroyed by fire on the 4th inst. The amount of the loss is not known, and it is stated that there was no insurance.

Mr. S. J. Sheppard, a prominent millman of Unadilla, Ga., had his saw mill destroyed by fire last week. His entire loss will amount to about \$1500. He will buy new machinery and rebuild at once.

The White River Stave Co., at Clarendon, Ark., is receiving larger quantities of staves and bolts than in any year during its history at that point. Receipts of timber give no indication of an exhausted supply.

Messrs. Simpson & Co., of Bagdad, Fla., are erecting a new dry-kiln of 25,000 feet capacity. In addition to

their old one, they contemplate putting in a new boiler to supply steam for the new kiln.

The Van Gilder Planing Mills and Ginnery, located near the edge of the city of Cartersville, Ga., was entirely destroyed by fire on the 3d inst. The loss is estimated at about \$4000, with no insurance.

The saw mill of Mrs. A. R. Freeman, at Leggett, Texas, was totally destroyed by fire on the 31st ult. Loss about \$8000, with no insurance. Two million feet of lumber was sawed, and the plant will be rebuilt at once.

The barge Forest Belle finished loading lumber at Fernandina, Fla., for Boston on the 31st ult. with 1,200,000 feet of lumber, said to be the largest cargo ever shipped from that port. Messrs. H. Weston & Co. are the shippers.

The big ship Premiere, under charter to load for W. S. Keyser & Co., of Beaumont, Texas, at Sabine Pass, is now past due. The vessel comes from the South coast of Africa, and will take out about 1,000,000 feet of square timbers.

The extensive factory of S. R. White and the S. R. White & Sons Co., manufacturers of agricultural implements, at Norfolk, was destroyed by fire on the 2d inst. The loss is estimated at about \$60,000, about two-thirds covered by insurance.

Messrs. Holway & Field, whose box factory in West Tampa, Fla., was destroyed by fire some months ago, have purchased the Morse & Cole mill site in Tampa proper. The firm have equipped their new box factory with new machinery and will begin operations this week.

The Bancroft Lumber Co., of Orange, Texas, has secured 2,000,000 feet of choice logs and started up last Monday on full time for an indefinite period. Large contracts have been placed lately with the company, which will begin cutting square timber, South American orders and German prime lumber.

The large shipping and storage building of D. Wilfson & Son, furniture manufacturers, at Baltimore, caught fire on the 4th inst. The fourth and fifth floors were gutted and considerable damage done to the stock in other portions of the building. Mr. Wilfson estimates his loss at \$30,000, covered by insurance.

The Mechanics, Dealers and Lumbermen's Exchange, of New Orleans, reports the receipts of lumber at that port for the week ending the 3d inst. at 1,580,000 feet, and for the season 6,410,000 feet, against 9,975,000 feet last year. Receipts of shingles for week, 45,000; laths, 185,000; oak staves, 127,000, and cypress staves, 25,000.

At a special session of the county commissioners at Beaumont, Texas, last week, Messrs. T. E. Spottswood & Co., lumber exporters, were granted a ten years' franchise or privilege for the construction of a wharf at Sabine Pass over the lake. Work of construction will begin as soon as the government engineer approves of the plan.

The Baird Lumber Co., of Mobile, Ala., received last week one of the largest pine-log rafts that ever came to that port. It contained 477 logs, measuring 276,680 feet, or an average of 576 feet to the log. There were twenty-seven logs in the raft measuring 27,000 feet. The Baird Lumber Co. has one of the finest plants in the South, with daily capacity of 75,000 feet.

The H. C. McDaniel Lumber Co., of Griffin and Lounn, Ark., has changed its name to the Superior Land & Lumber Co. The new officers of the company are: J. J. Ganahl, president; L. J. Ganahl, vice-president; John A. Repeis, treasurer,

and Theo. C. Ganahl, general manager. The new company contemplates a number of changes and improvements. The old mill at Griffin will be torn down and a new one built, the capacity being increased to 40,000 feet daily.

The shipments of lumber from the port of Fernandina, Fla., for the month of August, 1896, were 1,141,000 feet foreign and 4,645,000 feet coastwise, making a total of 5,786,000 feet. The total shipments to August 31 amount to 34,135,000 feet, of which 4,502,000 feet were foreign, and 29,633,000 feet coastwise. The foreign shipments of shingles for 1896 to August 31, inclusive, amount to 213,000, and coastwise, 886,000. The total shipments of crossties for the same period were 81,050.

Messrs. Poitevant & Favre, a prominent lumber firm of New Orleans, have recently made a contract with W. F. Kaiser & Co., of Pensacola, Fla., for 20,000,000 feet of lumber. The firm of W. F. Kaiser & Co. will send a steamer within the next fifteen or twenty days which will take on a cargo of 4,800,000 feet of lumber, about half of which will be loaded at Pensacola and the balance at Ship Island, a part coming from the Pascagoula mills and the remainder from the Pearlinton mills. The steamer will clear from Biloxi for a port in the United Kingdom.

The following are the monthly shipments of lumber by rail from Orange, Texas, since January 1, 1896, and do not include the lumber sent out by vessel via Sabine Pass: January, 609 cars; February, 414 cars; March, 540 cars; April, 651 cars; May, 455 cars; June, 458 cars; July, 539 cars; August, 487 cars—total, 4153 cars, against 5829 cars last year and 3208 cars for the same period in 1894. The rail shipments for the month of August were distributed among the mills of Orange as follows: Alexander Gilmer—Rough lumber, 466,317 feet; dressed, 454,616 feet; moulding, 15,000 feet; shingles, 234,000. Bancroft & Son—Dressed lumber, 514,983 feet, and shingles, 22,000. Orange Lumber Co.—Rough and dressed lumber, 1,807,717 feet. D. R. Wingate mill—Rough and dressed lumber, 1,499,529 feet. Litcher & Moore Lumber Co.—Rough lumber, 705,000 feet; dressed, 1,350,000 feet, and laths, 75,000 bundles.

The various shippers, inspectors and manufacturers of timber from Pensacola and other Gulf ports held a meeting at Ferry Pass last week for the purpose of adopting a classification for sawn timber to govern future operations. Mr. William H. Hyer, of Hyer Bros., was appointed chairman, and Inspector P. H. M. Tiffin, secretary. A committee was appointed by the chair to submit to the meeting a classification for its consideration. After an hour's deliberation, the chairman, W. H. Baars, announced a failure to agree upon a classification. Another committee was appointed, and after some deliberation the following classification was submitted and adopted: To be merchantable—Eleven inches and under, one and one-half inches wane in widest place, not to exceed one-third length on one corner, or if on two corners, one-third length of piece in the aggregate; from twelve to fourteen inches, two and one-half inches wane, not to exceed one-third length of stick on one corner, or if on two corners, one-third length in the aggregate; fifteen inches and up, three and one-half inches wane, not to exceed one-third length of piece, or if, on two corners, one-third length in the aggregate; must show heart on all four sides, be smooth butted, well manufactured, sound and free from all injurious defects, in the discretion of the inspector.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in any town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and even then they must expect the return of some letters, because of the lack of knowledge on the part of postmasters of all new companies. Criticisms and complaints are invited, as they will the better enable us to guard against errors.

ALABAMA.

Brantley—Water Supply.—The town contemplates sinking an artesian well for water supply. Address T. K. Brantley.

Childersburg—Shingle Mill.—Wallace Boaz has started a shingle mill of 30,000 daily capacity.

Eufaula—Water-power.—John Sherry and associates contemplate the reconstruction of a dam across the Chewalla creek to furnish water-power.

Florence—Bakery.—Sacks & Goldstein will establish a bakery in Florence.

Mobile—Dyeing Establishment.—S. A. Steenerson has established a dyeing establishment.

ARKANSAS.

Bentonville—Water Works.—The construction of the water works recently contemplated is being urged. Address the mayor.

Fort Smith—Railroad Shops, Roundhouses, etc.—It is said that the St. Louis & San Francisco Railroad Co. (H. L. Morrill, general manager, St. Louis, Mo.) will remove its shops to Fort Smith, erecting a 14-stall roundhouse, shops, terminals, etc., at a cost of from \$75,000 to \$100,000.

Fort Smith—Foundry, etc.—The Fort Smith Foundry, Gln & Machine Co., reported last week, will operate a plant, and new machinery will be put in.*

Griffin—Saw Mills.—The McDaniel Lumber Co. has changed its name to the Superior Land & Lumber Co. and organized with J. J. Ganahl, president; John A. Repels, treasurer, and Theo. C. Ganahl, manager. The company will erect a new mill of 40,000 feet daily capacity.

Hardy—Cannery.—The erection of a cannery is talked of. Clayton & Cope may possibly be able to give information.

Hardy—Flour Mill.—Daily & Hastings have added a flour mill to their plant.

Searcy—Manufacturing Company.—The Searcy Manufacturing Co. will add new machinery to its plant.

Searcy—Water Works and Ice Plant.—It is reported that a water system and an ice plant will be constructed.

Searcy—Electric-light Plant.—The Searcy Electric Light & Power Co. has ordered additional machinery for its plant.

Siloam Springs—Electric-light and Water Works.—There is talk of the construction of water works and electric-light plant.

FLORIDA.

Ellzey—Grist Mill.—John Williams is putting in a grist mill.

Fernandina—Electric-light Plant.—The city still has under consideration the erection of an electric-light plant. Address the mayor.

Freeport—Saw Mill.—J. D. Gray & Co. have commenced the erection of a mill to have a daily capacity of 20,000 feet.

Freeport—Saw Mills.—J. J. McCaskill & Co. will add new boilers and a band mill to their plant.

Macclenny—Nursery Company.—The Griffing Brothers Co. has been incorporated, with a capital stock of \$25,000, to conduct a nursery; W. D. Griffing, president; W. C. Griffing, manager, and A. H. Griffing, superintendent.

Palatka—Ice Plant.—It is proposed to erect an ice plant, and Cash & Miller are said to be interested.

St. Andrew's Bay—Telephone System.—The St. Andrew's Bay, Chipley & Vernon Telephone Co. has formally organized and elected officers as follows: A. J. Gay, of Gay, president; T. W. Hentz, secretary, and L. M. Ware, treasurer, both of St. Andrew's Bay. Contract for the construction of the system has been awarded to D. J. Denton, of Brownwood, Texas.

St. Petersburg—Electric-light and Water Plant.—A. P. Weller, of Tarpon Springs, is making plans for the proposed electric-light and water plant. Electric plant will start with 600 lights. Water plant will consist of steel water tower 100 feet high, tank of 65,000 gallons capacity, 9000 feet of pipe, etc.

Tallahassee—Rope Mill.—Robert Ransom is mentioned in connection with a proposed rope mill.

Tampa—Tannery and Shoe Factory.—It is proposed to establish a shoe factory, and D. M. Wilson, of Way Cross, Ga., is endeavoring to enlist capital in the enterprise. A tannery is also proposed in connection with the factory. A factory employing 140 hands, making 700 pairs of shoes daily, is talked of.

Waldo—Saw Mill.—The Bradford Land & Improvement Co. will erect a saw mill between Waldo and Fairbanks.

West Tampa—Cigar Factory.—Teodoro Perez, Juna Ebra, F. J. Urquiza and others have incorporated the Monroe Cigar Co. to operate a factory.

GEORGIA.

Cedartown—Cotton Ginnery.—Abram Jones has equipped a steam ginnery.

Chickamauga—Extensive Coking Plant.—The Chickamauga Coal & Iron Co. will, it is said, expend about \$100,000 in improvements at its mines. The improvements include, it is reported, 200 coke ovens, which are to be constructed at once, with washing plant, etc. Six hundred more coke ovens are also contemplated, which would cost \$300,000 more. The 200 coke ovens will have a daily capacity of 300 tons of coke.

Cuthbert—Electric-light Plant.—The city has appointed September 18 as the date for voting on the proposed issuance of \$7000 in bonds for the erection of an electric-light plant; Robert L. Moye, mayor.

Elberton—Ice Plant.—A company will be organized to erect an ice plant.

Fort Valley—Harness Factory.—George Clark will establish harness factory.

Pelham—Publishing Company.—J. N. Carter, M. Wilkes, H. M. Atkinson and others have incorporated the Pelham & Meigs Publishing Co., with a capital stock of \$1500, for publishing purposes.

Savannah—George T. Drane and others have incorporated the George T. Drane Co., with a capital stock of \$8000.

Woodbury—Woodworking Plant.—Powell & Dixon will locate a woodworking plant.

KENTUCKY.

Elkton—Stemumery.—Ben Garnett, of Pembroke, proposes establishing a tobacco stemumery at Elkton.

Louisville—Planing Mill.—John Hoffer contemplates erecting a saw mill.

LOUISIANA.

Franklin—Water Works.—The city is now advertising for bids on the construction of the water works recently voted for, to cost \$25,000; L. B. Tarlton, mayor.*

Lafayette—Electric-light and Water Works.—The Consolidated Engineering Co., of New Orleans, writes us that as Southern representative of the Seckner Contracting Co., of Chicago, it desires to state that the report in our Bulletin of 5th Inst. was incorrect in stating that the contract for water works and electric-light plant had been awarded to the Chicago company.

Lake Charles—Box Factory.—E. H. Burleson contemplates putting in machinery for making boxes.*

New Orleans—Real Estate.—The Carroll Real Estate Co., Limited, has been incorporated, with a capital stock of \$75,000, with Stanley O. Thomas, president, and Joseph A. Alrey, secretary.

New Orleans—Motor Works.—The Standard Fireless Engine Co., Limited, is experimenting with its new ammonia motor, and proposes establishing works in the future. Dr. T. Nagel is president.

MARYLAND.

Aberdeen—Water Works.—The city has voted an issuance of \$15,000 in bonds to construct the proposed water works recently noted. Address the mayor.

Baltimore—Machine and Car Shops.—The Baltimore & Ohio Railroad Co.'s Mt. Clare shops are now in operation, and improvements are being made. In the brass foundry five new furnaces are being added; also a traveling crane.

Baltimore—Land Company.—William W. Davis and others have incorporated the Alta Land Co., with a capital stock of \$3000.

Baltimore—Electric-supply House.—James F. Morrison, Paul Winsor, John S. Boyd and Herbert R. Preston, of Baltimore, and Alfred A. Glasier, of Boston, Mass., have incorporated the Southern Electric Co., with a capital stock of \$70,000. The company will deal in electric supplies, etc.

Havre de Grace—Shoe Factory.—It is proposed to organize the Havre de Grace Shoe Co., with a capital stock of \$20,000, to buy and put in operation the shoe factory of Faust & Son, now idle. S. J. Seneca, A. P. McCombs, R. K. Vanneman and others are interested.

Washington, D. C.—Electrical Equipment, etc.—The Metropolitan Street Railway Co. has notified its stockholders of issuance of \$250,000 in bonds for equipping the road.

Williamsport—Brick and Earthenware Works.—Victor Cushwa, M. E. Cullen, D. K. Cushwa, C. F. Cushwa, of Williamsport, and Victor M. Cushwa, of Hagerstown, Md., have incorporated the Conococheague Brick & Earthenware Co. for the purpose of manufacturing brick and earthenware. The plant was recently erected.

MISSISSIPPI.

Elizabeth—Planing Mill.—A. L. Pipplin will erect a planing mill.

Vicksburg—Box Factory.—The Vicksburg Lumber Co. will erect a box factory.

MISSOURI.

Independence—Cannery.—The Independence Canning Co. has been incorporated, with capital stock of \$6000, by J. J. Owen, S. H. Woodson and William Stewart.

Joplin—Lead and Zinc Mines.—The Chicago Consolidated Mining Co., capital stock \$25,000 and \$12,000, respectively, have been incorporated by Hugh McIndoe, of Chicago; Robert Allen, of Burlington, Iowa; David H. Arnold, of Nicholasville, Ky.; Eric Hedburg, E. B. Leonard, J. M. Leonard and Frank Church, of Joplin. Each company is developing lead and zinc ores near Joplin.

Kansas City—Woolen Company.—J. H. Foster, G. W. Hornwell and Anna E. Foster have incorporated the Foster Woolen Co., with a capital stock of \$2000.

Nevada—Smelting Plant.—The Nevada Smelter Co. has been organized, with George E. Nicholson, president, and will erect a plant to cost about \$40,000; capacity to be 27,000 pounds of spelter daily.

Nevada—Water Reservoir.—The Missouri, Kansas & Texas Railway Co., T. C. Purdy,

manager, St. Louis, Mo., has purchased twenty-seven acres of land near Nevada, to be used, it is said, as a site for a water reservoir.

Pacific—Water Works.—Bryan & Humphrey, of St. Louis, have made preliminary surveys for water works for Pacific. Address the mayor.

St. Louis—Brokerage Company.—Annie L. Konta, Alex. Konta and John P. Bergin have incorporated the Konta Brokerage Co., with a capital stock of \$50,000.

St. Louis—Mercantile.—The Epicure Grocery Co. has been incorporated, with capital stock of \$3000, by Conrad Jeneman and John Luebke.

St. Louis—Laundry.—Ferdinand Theilmann and others have incorporated the Perfection Steam Laundry Co., with a capital stock of \$3000.

NORTH CAROLINA.

Booneville—Saw Mill.—M. L. Woodhouse & Co. will probably erect a saw mill.

Morganton—Electric-light Plant.—The Morganton Electric Light Co. is putting in two dynamos.

Salem—Chair Factory.—Holland & Welsner will establish a chair factory.

Wadesboro—Cotton Mill.—The Wadesboro Cotton Mills has in contemplation the addition of 6700 spindles to its present plant of 6700 spindles, or possibly enough looms to weave the product of the 6700 spindles now running.

Winston—Chair Factory.—J. H. Mason & Co. contemplate commencing the manufacture of chairs.*

SOUTH CAROLINA.

Arlington—Cotton Mill.—George T. Walker has added new machinery to his cotton mill.

Greer Depot—Oil Mill.—The new company, previously reported, has obtained charter as the Greers Cottonseed Oil & Fertilizer Co., with capital stock of \$12,000, and will erect plant; incorporators, D. D. Davenport, Chas. Littlefield and A. R. Wood.

TENNESSEE.

Chattanooga—Plumbers' Supplies Works.—George W. Campbell has organized the G. W. Campbell Co. to deal in plumbers' supplies. About January 1 the company will engage in the manufacture of the goods mentioned. Thirty hands will be employed at the start.

Chattanooga—Pulley Works, etc.—The Chattanooga Pulley Co. and the Mountain City Burial Case Co. will rebuild at once their entire plant, recently burned, at a loss of \$40,000.

Luttrell—Brick Plant.—The Luttrell Brick Co. will put its plant in operation, employing fifty men.

Maryville—Electric-light Plant.—The Maryville Electric Light Co. has put in a new dynamo.

Nashville—Saw Mill.—It is rumored that Bogle, Davis & Craswell will erect a saw mill.

Newport—Flour Mill.—R. L. Vinson is adding some new machinery to his flour mill.

Rockwood—Laundry, etc.—T. H. Lindsay has purchased the Hinds steam corn mill at Rockwood and is adding a steam laundry equipment.

TEXAS.

Ballinger—Ice Plant, Laundry, etc.—The erection of an ice plant, to cost \$20,000, and steam laundry and bottling plant is proposed. C. H. Willingham, R. R. Wylie, H. C. Wylie and others are interested.

Ballinger—Steam Laundry, Bottling Plant, etc.—C. H. Willingham, T. D. Shneider and J. A. Younger have incorporated the Ballinger Manufacturing Co. to operate steam laundry, bottling plant, etc. The capital stock is \$10,000.

Ballinger—Mercantile.—The Miller Mercantile Co. has been incorporated, with a capital stock of \$20,000, by C. R. Miller and others.

Belton—Gold Mines.—Gold deposits are said to have been found near Belton by M. F. Hiatt.

Brownwood—Cold-storage Plant.—B. S. Boysen will erect a cold-storage plant.

Caldwell—Cotton Ginnery.—Jenkins & Jenkins will rebuild their burned ginnery.

Dallas—Paint Works.—The Dallas Paint Co. has been chartered, with a capital stock of \$15,000, to manufacture paints, etc., by

F. J. Barry, H. C. Rupe, J. G. Dietz and C. D. Pratt.

Greenville—Water Works.—The Greenville Water Works Co. will make improvements, erecting two reservoirs, etc. It is said that \$80,000 will be expended.

Marlin—Electric-light Plant.—R. G. Welle and Ed. Schimming have asked for franchise to erect an electric-light plant to cost \$8000.

San Antonio—Electric-light Plant.—J. P. Green, F. A. Piper and W. W. King have incorporated the Mutual Electric Light Co., with a capital stock of \$50,000; will manufacture and sell electric light and power.

San Antonio—Mercantile.—S. Rabe and others have incorporated the E. B. Frank Dry Goods Co., with capital of \$7500.

Taylor—Oil Mills.—The Taylor Oil Mills, J. E. Tucker, president, will rebuild its \$25,000 plant, which has been destroyed by fire.

Temple—Knitting Mill and Cotton Mill, etc.—The city is desirous of having cotton mill, knitting mill and mattress factory established, and is offering inducements. For information address W. T. King.

VIRGINIA.

Lexington—Bicycle Works.—It is said that J. E. A. Gibbs has invented an attachment for bicycles, which a company will at once be organized to manufacture.

Mt. Crawford—Electric-light Plant.—The erection of an electric-light plant is proposed. Myers & Funkhouser can give information.*

Norfolk—Iron Works and Foundry.—S. R. White & Sons will rebuild at an early date their general foundry and iron works, which have been destroyed by fire. The loss was about \$70,000.

Norfolk—Packing Plant.—Chartered: The Hemingway Packing Co., with a capital stock of \$150,000, for packing fruits, vegetables, etc.; William D. Hemingway, president, and Harvey C. Hemingway, of Syracuse, N. Y., secretary.

Norfolk—Land Company.—The Pinner's Point Land Co. has been incorporated, with a capital stock of \$50,000, to buy and improve land, etc.; H. L. Maynard, president; John L. Watson, secretary-treasurer, and Alex. B. Butt, vice-president.

Richmond—Torpedo Factory.—A. J. Tucker, of Ettrick, will remove his torpedo factory to Richmond.

Staunton—Manganese Mines.—The Blue Ridge Manganese & Iron Mining Co. has been incorporated, with capital stock of \$100,000, for the purpose of mining iron and manganese. S. M. Yost, of Staunton, is president, and other officers are of Philadelphia, Pa.

Staunton—Iron Mines, etc.—The new Blue Ridge Manganese & Iron Mining Co. has for president, S. M. Yost, of Staunton; for vice-president, Jos. A. Vandergrift, of Philadelphia, Pa., and Charles W. Atmore, of Philadelphia, Pa., secretary. The company purposes mining iron and manganese, refining same, manufacturing iron and steel, etc.

Staunton—Water Works.—The city council has authorized the purchase of a new boiler for the city pump-house.*

WEST VIRGINIA.

Mayberry—Coal Mines.—The Elkhorn Coal & Coke Co. expects to put in an elevator and coal-crushing plant.

Wheeling—Iron Works.—The La Belle Iron Works has placed orders for a 22x34-inch cold mill.

BURNED.

Ashland, Va.—The saw mill of L. F. Blanton; loss \$4500.

Cartersville, Ga.—The Van Gilder planing mill and ginnery; loss \$4000.

Cotton gin of Carpenter & Payne, at Elmo, Texas; loss \$2500. Gin of E. J. Nelson, at Long Point; loss \$3000.

Cotton gin of Rotchie & Anderson Gin Co., at Manor, Texas, and of L. W. Carr, at Hearne, Texas.

Dunnellon, Fla.—George Brookhouse's bottling plant.

Frankfort, Ky.—The buildings of the Feeble-Minded Institute; loss \$40,000.

Harrisonburg, Va.—The Harrisonburg Stave and Heading Works; loss \$15,000.

Hephzibah, Ga.—C. Stetson's cotton gin.

Huntsville, Ala.—The fire at the West Huntsville Furniture Co.'s plant, noted last week, did not burn the factory, but a warehouse; loss \$18,000.

Kopperl, Texas.—George Harris's cotton gin.

Leggett, Texas.—Mrs. A. R. Freeman's saw mill; loss \$25,000.

Lone Oak, Texas.—Rabb & Gandy's cotton gin; loss \$3000.

Newell, Ark.—The cotton gin of P. A. Lake; loss \$2000.

New Orleans, La.—Jeans pants factory of B. Frelich and A. Badt badly damaged.

Norfolk, Va.—S. R. White & Sons' agricultural implement works; loss \$150,000, possibly more.

Poplar Grove, Ark.—The saw mill and gin of P. A. Luke.

Portsmouth, Va.—The Halstead lumber mills.

Raleigh, N. C.—The woodworking shop of Hicks, Ellington & Co.; loss \$8000.

San Marcos, Texas.—W. S. Smith's cotton gin; loss \$5000.

Taylor, Texas.—The Taylor Cottonseed Oil Mills; loss \$25,000.

The Alliance cotton gin, at Quinlan, Texas. Michael Feist's gin at Westphalia; loss \$2500.

Villa Rica, Ga.—The Villa Rica Lumber Co.'s plant.

Winston, N. C.—The Masonic Hall; loss \$40,000.

BUILDING NOTES.

Baltimore, Md.—School.—The contract has been awarded to Cornelius Sheehan at \$36,920 for the erection of a new city school-house.

Charlotte, N. C.—College.—Bids will be opened October 1 for the erection of a brick and stone college after plans by J. A. Dempwolf, of York, Pa. Drawings may be seen at Dempwolf's office or at the city hall, Charlotte. Address Charles B. King, for committee, Charlotte, N. C.

Columbus, Ga.—Business Building.—R. L. Ross will erect a brick business building.

Columbus, Ga.—Church.—About \$12,000 will be expended in remodeling St. Luke's Church. Address the pastor.

Covington, Va.—Dwelling.—J. E. Rollins has let contract to J. E. McClung for erection of residence.

Elberton, Ga.—Bank Building.—The Bank of Elberton has bought a building for \$4000, which it will remodel into a bank building.

Fincastle, Va.—Jail.—Botetourt county will build a jail. Proposals will be received until September 28 for the erection of the structure; to be fire-proof, with steel fixtures, after plans on file at office of Manly Manufacturing Co., of Dalton, Ga., and at office of board of supervisors at Fincastle. Address J. W. Matheny, clerk.

Huntsville, Ala.—Warehouse.—The West Huntsville Furniture Co. will rebuild at once its burned \$10,000 warehouse.

Kansas City, Mo.—School.—W. F. Hackney has prepared plans for a school building for the City Manual Training School. Structure is to be 160x140 feet, four stories high, have heating system, etc., and cost about \$90,000.

New Orleans, La.—Dwellings.—Permits issued to Philip Nagle for \$3000 cottage, and to E. J. Desentraux for \$1500 cottage.

New Orleans, La.—Dwellings.—Permits issued to F. A. Beck for \$1800 cottage; to Mrs. Lethelmer for \$2300 dwelling; D. J. Linaud, \$1000 cottage; to Charles Genella, \$2200 cottage; to Charles Genella, \$1200 cottage, and to E. A. Nelson for three dwellings, \$9000.

New Orleans, La.—Engine-house.—Contract has been awarded to E. F. Keplinger & Co. at \$5433 for the erection of city engine-house.

New Orleans, La.—Dwellings.—Permits issued to Jules Manger for \$2500 dwelling, and to Mrs. E. Pfaferolle for \$2300 residence.

Norfolk, Va.—Hotel.—W. H. Trice & Co. have closed contracts for the erection of a three-story hotel, with all modern improvements.

Norfolk, Va.—Convent.—The Franciscan Sisterhood will erect a home, to cost \$5000. Frank R. Mayo has contract.

Washington, D. C.—Dwelling.—A. L. Barbour will build a costly residence.

Washington, D. C.—Hotel.—It is said that Architect Cobb, of Chicago, is completing the plans for the \$2,000,000 hotel, which, as previously reported, is to occupy the site of the present Willards Hotel. The plans include a convention hall, roof garden, theatre, etc., 600 guest rooms, steel and fire-proof construction, steam heating, electric lighting, etc. Frank A. Hecht, of Chicago, is among those interested.

Washington, D. C.—Warehouse.—Fred Schleich has prepared plans for an office building for William Berens, Jr.

Wayne, W. Va.—Courthouse.—Contract has been awarded to W. C. Robinson, of the Knoxville (Tenn.) Building & Contracting Co., at \$19,560 for the erection of the Wayne county courthouse.

Wayne, W. Va.—Courthouse.—Frank P. Milburn, of Winston, N. C., has awarded contract to the Knoxville Building & Construction Co. at \$19,500 for the erection of the Wayne county courthouse.

West Point, Miss.—Bank Building.—The West Point State Bank has bought a building to remodel into a bank building, with iron and plate-glass front.

Wise, Va.—Courthouse.—Board of supervisors of Wise county have ordered Frank P. Milburn, of Winston, N. C., their architect, to change cost of new courthouse from \$45,000 to \$30,000. Plans will be ready for bids about October 10.

RAILROAD CONSTRUCTION.

Steam Railways.

Annapolis, Md.—It is reported that the Washington, Annapolis & Chesapeake Railroad Co. is completing surveys for the proposed line from Washington to a point on the Chesapeake bay near the mouth of the Severn river. L. H. Hyer, of Washington, is chief engineer.

Apalachicola, Fla.—It is reported that business men in Apalachicola are endeavoring to have a railroad line built from Carrabelle to Apalachicola. The Carrabelle, Tallahassee & Georgia line is now completed between Tallahassee and Carrabelle, fifty miles, and it is proposed to extend this line if possible. S. D. Chittenden is general manager at Tallahassee, Fla.

Baton Rouge, La.—F. M. Welsh, it is stated, is promoting a railroad to be called the Baton Rouge & Central Louisiana. It is to extend from Baton Rouge in a southwesterly direction through the Teche country of Louisiana. Mr. Welsh, who has been connected with the St. Louis, Avoyelles & Southwestern line, has his headquarters at Alexandria, La.

Chattanooga, Tenn.—It is rumored that C. P. Huntington is interested in the project to build a road from Nashville to Cincinnati, and that surveys are now being made. Mr. Huntington's address is 23 Broad street, New York.

Cooper, Texas.—The Texas Midland has been completed to Cooper, and trains are now in operation. E. H. R. Green, of Terrell, is president of the company.

Farmerville, La.—W. P. Chandler, of Farmerville, and others are interested in the proposed railroad line between Farmerville and Monroe, La. The people of Farmerville, it is reported, have promised \$10,000 in cash subscriptions to the stock, also a 10-year tax in aid of the enterprise.

Livville, N. C.—It is reported that Arthur B. Camp, of Chicago, and others have determined to build a railroad line twelve miles long from Livville to Cranberry Station, on the Southern Railway. It will penetrate an extensive tract of white-pine timber.

Mayfield, Ky.—The Cairo & Tennessee River Railroad Co., which is promoting the line from Bristol, Tenn., to a point on the Mississippi river near Cairo, has filed articles of incorporation. B. A. Neale is president, and E. S. Beaumont, secretary. The incorporators include J. M. Coulter, B. F. Beckham, W. W. Robertson and J. L. Dismukes. The road will pass through Hawkins, Hancock, Claiborn, Campbell and Scott counties, Tennessee, and Whitley and adjacent counties in Kentucky.

Oakland, Md.—The Pittsburg & Potomac Railway Co., recently referred to in the Manufacturers' Record, has filed articles of incorporation at Annapolis. It is proposed to build from a point on the Potomac river on the Maryland State line, and extend northerly through Garrett county to a point on Mason and Dixon's line. They are said to have a capital of \$500,000. E. H. Sincell, of Oakland, is one of the incorporators.

Sistersville, W. Va.—It is reported that the West Virginia Coal & Oil Railroad Co. has already begun the work of grading between Sistersville and Middlebourne, and that the right of way for most of the route has been secured. As already stated in the Manufacturers' Record, Gov. W. A. MacCorkle, of Charleston, is one of the parties interested in the company.

Sistersville, W. Va.—A director of the West Virginia Coal & Oil Railroad Co. advises the Manufacturers' Record that this road is intended to be built from Sistersville into the oilfields of Tyler county, and that this county has pledged itself to take \$50,000 of the stock of the corporation. Gov. W. A. MacCorkle, of Charleston, W. Va., and others are interested in the project.

Washington, Ga.—A correspondent of the Manufacturers' Record states that county of Wilkes has already pledged itself to take \$50,000 in bonds in aid of the Tennessee, Georgia & Atlantic project, in which E. A.

Richards and others, of Atlanta, are interested.

Wilmington, N. C.—The latest reports from the Carolina, Tennessee & Ohio Railroad show that about ten miles of the road have been graded and that about 300 men are at work. F. H. Blodgett, at Wilmington, is superintendent of construction. It is understood that the company will purchase rails at once for at least a portion of the line.

Winchester, Ky.—It is stated that the Licking Valley Railroad, of which A. Eaton, of Winchester, is vice-president, will be completed in about three weeks. It will be operated between a point on the Chesapeake & Ohio in Bath county, Kentucky, to what is known as the mouth of Beaver creek. The distance is about eleven miles. The road is narrow-gage.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Air-storage Outfit.—R. L. Ross, Columbus, Ga., wants an air-storage outfit.

Artesian-well Machinery.—The city of Hallettsville, Texas, wants to obtain some device for increasing the flow of its artesian well. Address W. A. Mair, secretary.

Belting.—Myers & Funkhouser, Mt. Crawford, Va., want to buy belting.

Boiler.—The city council of Staunton, Va., has authorized the purchase of a new boiler for the city pump-house. Address the mayor.

Box Machinery.—E. H. Burleson, Lake Charles, La., wants catalogues and prices on box machinery.

Broom Supplies.—J. H. Scott & Co., West Point, Va., want to buy broom supplies.

Chair Machinery.—J. H. Mason & Co., Winston, N. C., want to correspond with makers of machinery for manufacturing chairs.

Collar-pad Machinery.—J. A. Elliott, Charlotte, N. C., wants full information concerning the manufacture of collar pads, probable profit, cost of machinery, etc.

Dredges.—Charles D. Sweet, 137 Carondelet street, New Orleans, La., wants information of dredges for land filling, etc.

Electric-light Plant.—Myers & Funkhouser, Mt. Crawford, Va., want to buy electric-light and power machinery, pulleys, belting, sixty horse-power high-speed engine, etc., second-hand.

Elevator.—Proposals will be opened September 16 for construction of elevator plant (hydraulic) for passenger and freight purposes; plant to consist of one cast-iron hydraulic cylinder, twenty inches in diameter by five-foot nine-inch stroke, and geared from one to ten. Plant can be seen at the Treasury Building, Washington, D. C. Address C. S. Hamlin, acting secretary Treasury Department.

Engine.—Myers & Funkhouser, Mt. Crawford, Va., want to buy a second-hand sixty horse-power engine, high-speed.

Fuel Economizer and Smoke Consumer.—H. G. Kirves, 531 Julia street, New Orleans, La., wants to buy a fuel economizer and smoke consumer.

Gas Engine.—Wanted, a gas engine, second-hand; state lowest cash price. Address Z 506, Sun Office, Baltimore, Md.

General Supplies and Machinery.—The Cotton States Belting & Supply Co., Atlanta, Ga., wants to buy railway, mill and machine supplies for stock; catalogues, discounts, etc., solicited.

Laundry Machinery.—Will open proposals September 18 for putting in place laundry machinery for hospital building at New Orleans. Drawings can be obtained by application. Address Wm. Martin Aiken, supervising architect, Washington, D. C.

Machine Tools.—The Fort Smith Foundry, Gin & Machine Co., Fort Smith, Ark., wants to buy a shaper and power hammer, and possibly a boring mill.

Machine Tools.—The Asheville Supply & Foundry Co., Asheville, N. C., is in the market for a boring mill.

Nickel-plating Equipment.—R. L. Ross, Columbus, Ga., wants a nickel-plating outfit.
Pulleys, etc.—Myers & Funkhouser, Mt. Crawford, Va., want to buy pulleys and shafting.

Road Roller.—The city council of Birmingham, Ala., will buy a six-top road roller. Address the mayor.

Smoke Consumers.—The Asheville Supply & Foundry Co., Asheville, N. C., wants prices and descriptions of smoke consumers.

Steel and Iron Work.—Sealed proposals will be opened September 25 for completion of iron and steel work for postoffice building at Kansas City. Address Wm. Martin Aiken, supervising architect, Washington, D. C.

Telephone Equipment.—Proposals will be wanted for construction of telephone lines (about fifty miles long) and entire equipment; line to be strung through pine-woods country, and tops of trees can be used. Address Wm. A. Emmons, temporary president, St. Andrew's Bay, Fla.

Water Works.—The city of Franklin, La., wants bids and will open same October 1 on the construction of water works complete after plans by S. K. Felton, copies of which may be had upon application; L. B. Tarlton, mayor.

Woodworking Machinery.—See "Chair Machinery" and "Box Machinery" above.

Iron Markets.

Cincinnati, Ohio, September 5.

A marked increase in confidence has characterized the past week, but it has not been reflected yet in the pig-iron market. Bankers begin to make conditional promises of discounts in the near future, providing money works back to its usual channels. Business men feel that the country is to have four years more of honest currency, and now it is only necessary to wait for gradual restoration of the different lines of industry to their normal condition.

It cannot be denied that iron works generally are in a deplorable state. Salesmen report that many foundries and rolling mills are entirely shut down; others are working only one-third or one-half time.

Some who have very light stocks of raw material will not buy on account of difficulty experienced in making collections. They fear to assume added responsibilities. The worst feature from the consumers' standpoint is that new contracts are not obtainable to replace those expiring.

Prices for all grades of pig iron have evidently reached bottom. This statement has been made several times in the past few years, and buyers are apt to smile when it is repeated. There has been a persistent bear effort on part of some large buyers to push the furnaces down below starvation point, and the buyers have been ably seconded by a few brokers. Their united efforts proved futile during the past week. One of the prominent Alabama producers, after stating that they would not sell except for prompt cash, early delivery, now announce their withdrawal from the market entirely, and propose to blow out two furnaces. Another company, with two stacks, is holding at figures very much above current quotations, and several others are accepting only the most desirable offers submitted them.

The important sales during the week have been made in the East. Among those in the central territory were two orders of 1000 tons each Southern No. 2 foundry, and one for 500 tons Northern coke No. 1 foundry.

In the face of all present discouragements, the Colbert Iron Co., of Sheffield, Ala., has started its furnace and is making a larger product and higher grade of iron than ever before. The parties interested are owners of the celebrated West Point brown-ore mines, and propose to use it chiefly. Their iron is admirably adapted for mixture with either Northern or Southern brands.

We quote for cash f. o. b. Cincinnati:

Southern coke No. 1 foundry...	\$9 50@10 00
Southern coke No. 2 foundry...	9 25@ 9 50
Southern coke No. 3 foundry...	9 00@ 9 25
Southern coke, gray forge....	8 85@ 8 75
Southern coke, mottled.....	8 65@ 8 75
Southern coke No. 1 soft.....	9 25@ 9 50
Southern coke No. 2 soft.....	9 00@ 9 25
Lake Superior coke No. 1.....	12 00@ 12 50
Lake Superior coke No. 2.....	11 50@ 12 00
Hanging Rock charcoal No. 1...	15 50@ 16 50
Tennessee charcoal No. 1.....	13 00@ 14 00
Jackson Co. silvery No. 1.....	13 50@ 14 00
Standard Alabama car-wheel...	14 75@ 15 50
Tennessee car-wheel.....	13 50@ 14 50
Lake Sup. car-wheel & mail'e...	14 75@ 15 25

Philadelphia, Pa., September 5.

There is a better demand to report this week, and several clean sales have been made for sizable lots from 500 tons up to 4000 tons. By clean sales we mean that deliveries do not extend beyond December 1, and now that the orders have been entered the buyers seem as anxious to have regular weekly shipments made as the furnaces are to make them. Stocks are light in consumers' hands, and with anything like a normal fall trade the stocks at furnaces would be rapidly reduced.

We quote for cash f. o. b. Philadelphia docks:

No. 1 X standard Alabama...	@ \$11 25
No. 2 X standard Alabama...	@ 10 75
No. 1 X standard Virginia...	@ 11 75
No. 2 X standard Virginia...	@ 11 25
No. 1 X lake ore iron.....	@ 14 00
No. 2 X lake ore iron.....	@ 13 50
Lake Superior charcoal.....	@ 15 85
Standard Georgia charcoal....	16 25@ 17 00

Chicago, Ill., September 5.

Extreme caution prevails, and few, if any, buyers during the past fortnight have cared to venture beyond their actual needs. Prices have not changed, but furnace companies are holding firm. In many cases agents have withdrawn lower quotations, which, as it turns out, were unauthorized. The pressure to sell is not as great as it was.

While money is no easier, the situation has grown no worse, but rather has a more hopeful look. Every day almost seems to give new courage to the advocates of sound money, that everything will come out all right in the end. Nevertheless, with collections slow and new business scarce, most melters of irons do not care to increase their obligations beyond what they are obliged to.

We quote for cash f. o. b. Chicago as follows:

Lake Superior coke No. 1 fdy...	@ \$11 50
Lake Superior coke No. 2 fdy...	@ 11 00
Lake Sup. charcoal, Nos. 1 to 3...	13 50@ 14 50
Ohio Scotch No. 1.....	14 00@ 15 00
Jackson Co., O., silvery No. 1...	14 50@ 15 50
Alabama silvery No. 1.....	@ 11 85
Southern coke No. 1 foundry...	@ 11 00
Southern coke No. 2.....	@ 10 50
Southern coke No. 3.....	@ 10 00
Southern coke No. 1 S.....	@ 10 50
Southern coke No. 2 S.....	@ 10 25
Mannie	11 75@ 12 50

New York, N. Y., September 5.

The iron market is assuming phases which might be expected under the circumstances. On the one hand, the abnormally low prices and the rapid decrease of production have drawn the attention, not only of consumers, who have ready money, but of investors as well. Between these two classes the week has been an active one in orders. The total tonnage is probably the heaviest of any week since March. The leading Southern company for two weeks past has been booking orders at a rate treble, at least, its current product. The amount of Alabama iron actually bought by investors during two weeks will reach close to 70,000 tons. Further transactions are pending. It does not take a clear-headed man long to see there is nothing much better to stay with through troublous times than pig iron below cost of production at the cheapest-producing centre in the world.

On the other hand, the regular run of orders from consumers is very light. Most concerns are running on short time, and not a few are closed entirely. As everything depends upon the political and financial outlook, and those are uncertain elements, nothing can be said of the future with any degree of certainty.

At the close of the week, however, there

is a distinct improvement of sentiment in financial circles. While money remains very close and banks are doing nothing in the way of loans outside of their own customers, and the restriction of loans for two weeks has averaged \$1,000,000 a day, it is nevertheless confidently asserted by bankers that the worst of the scare is over. The unexpected size of the republican majority in Vermont, the very hopeful reports of sound-money and protection sentiment from the industrial centres East and West, and the large gold imports, all combine to make the outlook better.

We quote for cash f. o. b. docks or cars New York:

No. 1 X standard Southern...	@ \$11 25
No. 1 X choice Virginia, such as Shenandoah.....	@ 12 00
No. 2 X Alabama or Virginia...	@ 10 75
No. 1 soft Ala. or Virginia....	@ 10 75
No. 1 X lake ore coke iron.....	@ 14 00
No. 2 X lake ore coke iron.....	@ 13 50
Lake Superior charcoal.....	15 85@ 16 35

ROGERS, BROWN & CO.

Prosperous Tobacco Trade.

A full carload of tobacco, carried by the Southern Railway from Winston, N. C., to Macon, Ga., last week, attracted a good deal of attention at Greensboro, Charlotte, Atlanta and other places en route. From Atlanta to Macon the car was hooked on to the regular passenger train, and it was the observed of all observers. It bore a large banner with this device:

A Solid Carload of
P. H. HANES & CO.'S
"Early Bird," "Speckled Beauty" and
"Greek Slave" Tobacco for
S. R. JAKUES & TINSLEY CO.,
Macon, Ga.

Other than as a mere clever advertisement of an enterprising house, the shipment is of interest generally as indicating conditions in the South of an encouraging nature, for this incident is creditable as well to Macon as to Winston, the place where the Hanes factory is located. A full carload of chewing tobacco from one factory is not a bad order from one of the largest houses to give in the best of seasons, and it certainly would not have been given now unless the purchasing jobbers were able to see how they could dispose of the goods.

Inquiry shows that the tobacco trade of Winston is in a continuously flourishing condition. There are not so many factories as formerly, but those which have held on during the dull times are prosperous, and the total output is as large as ever, and Winston continues to enjoy the distinction of being the largest manufacturing centre for natural high-grade chewing tobaccos in the world. It is stated that the Messrs. Hanes—two brothers, natives of North Carolina, and men who by their own exertions and abilities have built a large business from almost nothing—will each year work up an average of over 3,000,000 pounds of leaf tobacco.

Steam Yachts and Marine Machinery
Built by Marine Iron Works, Clybourn and Southport avenues, Chicago. Free illustrated catalogue. Write them for it. 4

Hard to Beat.

During the months of March, April, May and June, 1896, the four vestibuled limited trains of the Chesapeake & Ohio Railway between Washington and Cincinnati made a remarkable record. Each train covered 599 miles 122 times, a grand total of 292,312 miles, or nearly eleven and three-quarter times the earth's circumference, and yet the four trains were on time 463 times out of a possible 488, an average of 95 per cent. Considering the number of trains, the period covered, the distance run and the mountainous nature of the country traversed, these figures speak volumes for the physical condition and management of the road, and account for its popularity with travelers between the East and West.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

No advertisements but those of a financial character will be accepted for the following page.

A Valuable Chart.

A very interesting chart to the student of the financial problem has been prepared by Messrs. John L. Williams & Son, bankers, of Richmond. It might be called an outline history of silver, and covers a period of over 100 years. The value of silver in gold is shown by a tracing which indicates what silver has been worth in the other metal since 1751. The chart also gives the world's gold and silver production since 1860, and the ratio of one to the other. Another interesting feature is a table showing the amount of the white metal purchased by the government for coinage purposes and coined since 1878. Although issued on account of the present financial agitation, the chart has a permanent value from an educational standpoint. Everyone interested in the study of the financial question should have a copy of this chart.

Plenty of Money at Home.

Those who are familiar with the monetary demands which have been made by the South upon the North in past years "to move the cotton," to use a familiar phrase, will be agreeably surprised to know that the amount of money which will be sent South this year will be less than usual. According to a report from Savannah, Ga., which, as is well known, is one of the principal financial centres of the South, the early movement of the cotton crop, with the comparatively good prices obtained, has placed the bankers and cotton factors in a much more independent position than usual. It is stated that the Savannah banks have actually ample funds on hand to supply all present demands, and with the movement now in progress the supply of funds is being increased instead of diminished. The Savannah News has obtained statements from Mr. Horace A. Green, vice-president of the Southern Bank; Mr. M. B. Lane, vice-president of the Citizens' Bank, and other equally good authorities. All unite in saying that the situation is surprisingly satisfactory, that the early movement of the crop practically insures a substantial supply of ready money, and that the planters, at least in the section of which Savannah is the market, will not be obliged to borrow money, procured from New York and other Northern cities, as in the past.

The good prices now being obtained for cotton enable the planters to meet their accounts, and it is stated that, as a rule, the planters are in much better condition than last year, despite the general business depression caused by the political agitation. The same condition prevails in most of the other cotton-producing States, and the indications are that when the present crop is marketed the planters will, as a rule, be much more independent in a financial sense than for several years past.

New Corporations.

The recently-organized People's Bank will begin business at Houma, La., with \$25,000 capital.

The West Point State Bank, of West Point, Miss., recently organized, will have a capital of \$25,000.

The Bank of Perryville, Ky., which was recently organized with \$15,000 capital, has J. N. Gray as its president; Wallace

NEWS.

vites infor-
mal matters,
itions, divi-
be issued,
general dis-
cussing upon

a financial
the following

the student

been pre-

Williams &

might be

silver, and

years. The

own by a

silver has

since 1757.

's gold and

the ratio

interesting

amount of

the govern-

and coined

on account

station, the

from an

anyone inter-

financial ques-

s chart.

ome.

the mone-

made by

past years

a familiar

surprised to

money which

will be less

report from

well known,

cial centres

ment of the

tively good

the bankers

more inde-

It is stated

actually

ly all pre-

movement

of funds is

diminished.

s obtained

A. Green,

ern Bank;

ent of the

ually good

ing that the

satisfactory.

f the crop

tial supply

the planters.

in Savannah

igned to bor-

New York

in the past.

being ob-

planters to

stated that

much better

ite the gen-

used by the

ne condition

cotton-pro-

tections are

is marketed

he much

ncial sense

ple's Bank

at, La., with

nk, of West

ed, will have

which was

000 capital.

ent: Wallace

Green as vice-president, and Geo. W. Edwards as cashier.

J. W. Edwards, of Raleigh, N. C., has determined to open a bank at Sanford in the same State. He has already secured a building for this purpose.

The recently-organized Bank of Ascension has opened for business at Donaldsonville, La., with \$30,000 capital. Jacob Lebermuth is president, and J. J. Claverie, vice-president.

New Securities.

L. B. Tarlton, mayor, will receive bids for \$25,000 in 6 per cent. bonds to be issued by the town of Franklin, La. He may be addressed at Franklin.

The city of Charleston, S. C., will receive bids until September 18 for \$60,000 in 5 per cent. bonds, to mature in thirty years from date of issue.

The Metropolitan Street Railway Co., of Washington, has determined to issue \$250,000 in 6 per cent. certificates for the purpose of purchasing equipment for the road.

The city council of Staunton, Va., has voted to issue \$15,000 in 5 per cent. bonds for street and other city improvements. The city clerk may be addressed for further information.

Financial Notes.

The Colony Bank, of Fitzgerald, Ga., has been reorganized into a private banking house, under the title of Bauder & Bowen. Frank T. Bauder will be president and Wm. R. Bowen, cashier of the firm.

The remarkable increase of business at Savannah, Ga., is reflected by its bank clearings. For the week ending September 5 the clearings of the associated banks were more than 50 per cent. in excess of the same week 1895, which was the largest gain in a list of eighty-eight cities.

W. H. Boynton has been appointed cashier of the Isbell National Bank of Talladega, Ala.; F. D. Bloodworth, cashier of the National Bank of Savannah; C. Downing, president of the National Bank of Brunswick, Ga.; G. L. Knight, cashier of the Nicholasville (Ky.) National Bank, and A. S. Rice, cashier of the Farmers' National Bank of Cynthiana, Ky.

TRADE NOTES.

The Glidden Specialty Supply Co., of Cleveland, Ohio, has secured representative distributing agencies through the South among the wholesale hardware trade for its superior 'cycle sundries and metal polishes.

Poulterer & Co., of Philadelphia, have shipped a locomotive to the St. Mary's Railroad Co., at Crawford, Fla., and one to Messrs. Davis Bros. & Co., at Crandall. This concern has received a cargo of scrap iron of 750 tons from Beaufort, S. C.

We have received a copy of the new descriptive pamphlet issued by the Jamieson Fire-Resisting Paint Co., of 62-64 William street, New York. This is a treatise on the subject of painting of special interest. All property-owners, as well as those who contemplate building, can secure a copy upon application to the company.

At the recent Atlanta Exposition the building of the Manly Manufacturing Co. was roofed with and sheathed outside with raw-hide paper, which was painted thoroughly and striped to represent bricks. The effect was pleasing, and at the same time made a very attractive and durable covering at a small cost. C. S. Garrett & Son, 12 Decatur street, Philadelphia, Pa., who manufacture this raw-hide paper under a special process, received from the Manly Manufacturing Co. the following letter: "We used your No. 200 raw-hide lining on the outside of the sheathing, putting the paper on longitudinally around the building, lapping it slightly at the seams, and nailing closely on the edge and occasionally between, and after painting it brick color and striping with white lead, putting in arches over windows,

TABLE OF CONTENTS.

EDITORIAL:	Page.
Cotton for Japan.....	105
Heavy Grain Exports from Southern Ports.....	105
Was He a Prophet?.....	105
Advance of Cotton Manufacturing in the South.....	105
The Views of an Investor in the South.....	106
Extensive Coking Plant in Georgia.....	106
Some Interesting Letters.....	107
Cotton Crop of the United States for 1895-96.....	107
RAILROADS:	
Remarkable Train Service.....	109
Bonds for a New Road.....	109
New Line to the Oil District.....	109
Poor's Manual.....	109
W. H. Baldwin's Resignation.....	109
\$500,000 for Improvements.....	109
Carrying Coastwise Cargoes.....	109
A Great Steamship Company.....	109
Southern Exports to Manchester.....	110
Railroad Notes.....	110
For Handling Fruit.....	110
Silk Industry in the South.....	110
COTTONSEED OIL:	
The Market for Cottonseed Products.....	110
Cottonseed-Oil Notes.....	110
PHOSPHATES:	
Phosphate Markets.....	111
Phosphate and Fertilizer Notes.....	111
Norfolk's Commercial Growth.....	111
TEXTILES:	
Textile Notes.....	111
Superficial Examination of Ores Free.....	111
MECHANICAL:	
A General Grinding Mill (Illus.).....	112
New Tandem Compound Marine Engine (Illus.).....	112
Zell Boiler Improvements (Illus.).....	112
Improved Band Resawing Machine (Illustrated).....	113
Improved Swing Saw (Illus.).....	113
Corn for Mexico.....	113
LUMBER:	
Lumber Market Reviews:	
Baltimore.....	114
Charleston.....	114
Savannah.....	114
Jacksonville.....	114
Pensacola.....	114
New Orleans.....	114
Beaumont.....	115
Lumber Notes.....	115
CONSTRUCTION DEPARTMENT:	
New Enterprises.....	116
Building Notes.....	117
Railroad Construction.....	117
Machinery Wanted.....	117
Iron Markets.....	118
Prosperous Tobacco Trade.....	118
FINANCIAL NEWS:	
A Valuable Chart.....	118
Plenty of Money at Home.....	118
New Corporations.....	118
New Securities.....	119
Financial Notes.....	119
Trade Notes.....	119

etc., we have a good representation of a brick fall, and are very much pleased with the way the material stands. It is truly as tough as leather."

The McCool Tube Co., of Beaver Falls, Pa., is tearing down part of the old cutlery-works building in order to make room for a large building, 100x200 feet, in which to erect drawing benches for the manufacture of the McCool Eagle brand of seamless steel cycle tubing. Each bench will be run by a separate twenty horse-power electric motor. Power is obtained from the Beaver river, and the company is also putting in a number of the McCool turbine water-wheels. This company was recently organized and has applied for a charter, the capital stock being placed at \$300,000. The stockholders are William A. McCool, Harry W. Reeves, of Beaver Falls; A. S. Reeves and J. M. Kreamer, of Philadelphia, and Hunter Eckert, of Reading.—Iron Age.

The Ball Engine Co., Erie, Pa., reports an encouraging increase in orders during the past few weeks for engines for electric work. Shipments for the month of August were as follows: Bradford Electric Railway Co., Bradford, Pa., 200 horse-power cross-compound engine; village of Willmar, Willmar, Minn., 100 horse-power; Fox Pressed Steel Co., Pittsburg, Pa., 100 horse-power, direct connected to Westinghouse generator; Henry Sonneborn & Co., Baltimore, Md., twenty-five horse-power, direct con-

J. WM. MIDDENDORF.

Members Baltimore Stock Exchange.

WM. B. OLIVER.

MIDDENDORF, OLIVER & CO.
BANKERS AND BROKERS,

No. 213 E. German Street, [KEYSER BUILDING.] Baltimore, Md.
Stocks and Bonds Bought and Sold on Commission. Special attention given to Municipal and other Investment Loans. Dealers in Foreign Exchange. Drafts on Europe and Letters of Credit furnished.

SPERRY, JONES & CO.

DEALERS IN Southern Investment Securities,

239 East German Street, Baltimore, Md.

OUR FACILITIES ARE UNEXCELLED.

CLAPP & COMPANY, BANKERS AND BROKERS,

Mills Building, NEW YORK.

STOCKS, COTTON, GRAIN.

Bank Stocks and Municipal Bonds Bought and Sold.

Receive Deposits.

Allow Interest.

PRIVATE TELEGRAPH WIRES.

LONG DISTANCE TELEPHONE.

SURETY BONDS OF EVERY KIND.

American Bonding & Trust Co.

OF BALTIMORE CITY.

Equitable Building, Baltimore.

Capital, fully paid, - - \$500,000
Stockholders' Liability, - 500,000

JAMES BOND, President.
JOHN HUNTER, Vice-Presidents.
JOSHUA HORNER, Secretary-Treas.
JOHN T. STONE, Counsel.
JOHN K. COWEN,

Gives security for Executors, Administrators, Trustees, Receivers, officers of Banks, Corporations, Lodges and Societies, Contractors, Clerks, Messengers, Conductors, Motormen, and all other employees, etc.

GUARANTEES THE FULFILLMENT OF CONTRACTS.

nected to General Electric dynamo; Rogers, Peet & Co., store building, Broadway, New York city, twenty-five horse-power and 100 horse-power engines; National Galvanizing Works, McKeesport, Pa., 175 horse-power; National Tube Works, McKeesport, Pa., 175 horse-power, direct connected to Crocker-Wheeler dynamo; Iowa Agricultural College, Ames, Iowa, sixty horse-power; J. Q. Howe's Sons' electric-light plant, Phelps, N. Y., 100 horse-power; Cambridge Fuel Co., Byersville, Ohio, 125 horse-power for electric mining; Institute for Blind, Janesville, Wis., forty horse-power; Bertha Mineral Co., Bertha, Mo., seventy horse-power; Crook, Horner & Co., Baltimore, Md., thirty-five horse-power; Gobierno del Distrito Federal, Mexico City, eighty horse-power and thirty horse-power engines; H. V. Phelps, Nitta Yuma, Miss., twenty-five horse-power; Toledo Glass Co., Toledo, Ohio, 100 horse-power.

It sometimes happens that through an inadvertence the domicile of a corporation is misplaced. This occurred recently, but caused no serious trouble. The concern referred to was so well known to the trade that its home address is not forgotten. We had located the Q. & C. Co. at Cincinnati. This city would no doubt be proud to possess such an enterprising concern, but it belongs to Chicago. In the latter city its headquarters are 703-705 Western Union Building. Cincinnati, however, as well as every other city where wide-awake men abide, is familiar with this company's products. All sections send testimonials of approval of the Q. & C. metal-sawing machines. Extracts from these are interesting. Among them are the following: "I secured this machine some two years ago, and have not bought a set of crossings for renewals since. I usually make card template of the angular joint to be renewed and have it sawed and drilled at my supply yard, or let foreman do it on the ground. I consider this saw the best money-saving appliance I have on my division. The cost shown covers the sawing, drilling, removal of old pieces and replacing of same with new rails. The average time required to cut, say, an angle of forty-five degrees is about twenty minutes." "From my investigation as to the merits of the machine, I long ago became convinced that it would be a great advantage to have one on each track division." "I can cheerfully recommend the Bryant rail saw as being the best machine of its kind that has ever come under my notice. I have had it in use continually for nine months, with the exception of intervals of a few days. I can cut a 70-pound steel rail in from twelve to thirteen minutes, and have made cuts from one-half inch upwards. I have had it in constant use for one and one-half days at a time before getting saw sharpened."

JOHN L. WILLIAMS & SONS,
BANKERS,

Dealers in RICHMOND, VA.

Southern Investment Securities,

MUNICIPAL BONDS A SPECIALTY.

Correspondence Invited.

Fidelity and Judicial Bonds of every kind Issued by

The United States Fidelity and Guarantee Co. OF BALTIMORE.

SOLICITS YOUR PATRONAGE.

Temporary office, Rooms of the Merchants and Manufacturers' Association, Corner of German Street and Hopkins Place. Telephone 268.
Bonds furnished Officers and Employees of Mercantile Houses, Banks, Railroads, Express and Telegraph Companies.

Officials of States, Cities and Counties. Becomes Surety on Bonds of Guardians, Assignees, Executors, Trustees, Replevin, Injunctions, Administrators, Receivers, Attachment, and all undertakings in Judicial Proceedings in State and United States Courts. Does not act as Executor, Administrator or Trustee. Patronage of Lawyers specially solicited and special rates given.

CAPITAL.....\$500,000.00

STOCKHOLDERS' LIABILITY.....500,000.00

TOTAL RESOURCES.....\$1,000,000.00

HON. FRANK M. BROWN, President. Governor of Maryland from 1892 to 1896.

JOHN R. BLAND, Vice Pres. and Gen. Manager.

J. KEMP BARTLETT, JR., Second Vice-Pres.

ALEXANDER PAYSON KNAPP, Secretary.

TOWNSEND SCOTT, Treasurer.

HON. SIDOR KAYNER, General Counsel.

MARTIN LEHMAYER, Assistant Counsel.

WILLIAM B. RAYNER, Assistant Counsel.

MARYLAND TRUST CO.

Corner South and German Sts.

BALTIMORE.

CAPITAL, - \$1,000,000.

A LEGAL DEPOSITORY FOR COURT AND TRUST FUNDS.

Acts as Financial Agent for States, Cities, Towns, Railroads and other Corporations. Transacts a general trust business. Lends money on approved security. Allows interest on special deposits. Acts as Trustee under Mortgages, Assignments and Deeds of Trust; as Agent for the Transfer or Registration of Stocks and Bonds, and for the payment of coupons, interest and dividends.

J. WILLCOX BROWN, PRESIDENT.

LLOYD L. JACKSON, VICE-PRES.

J. BERNARD SCOTT, Secretary and Treasurer.

DIRECTORS.

J. Willcox Brown, Leopold Strouse.
Wm. A. Marburg, Henry Walters,
H. J. Bowdoin, H. A. Parr,
Basil B. Goroon, B. N. Baker,
Lloyd L. Jackson, Andrew D. Jones,
Fred. M. Colston, James B. Bond,
Joshua Levering, Alexander Brown,
Frank Brown, T. K. Worthington,
W. B. Brooks, Jr., Clayton C. Hall,
W. H. Baldwin, Douglas H. Gordon,
Fredk. W. Wood, J. D. Baker,
John B. Garrett.

If you want to reach the possible land buyers and investors in the North and West who are thinking of locating in the South, advertise in the Southern States magazine, published by the Manufacturers' Record Publishing Co., Baltimore, Md.

Alphabetical Index of Advertisers.

FOR "CLASSIFIED INDEX" SEE PAGES 3, 5 AND 7.

Acme Filter Co. 9	Clark Foundry & Machine Co. 37	Glidden Specialty Supply Co. 40	Munson Bros. 19	Simmons, W. Seabury. 30			
Adams & Price L. & M. Works. 37	Clark, W. J., Co. 18	Golden's Foundry & Machine Co. 18	Munson, Chas., Belting Co. 11	Simpson, J. S. & G. F. 26			
Ahrens & Ott Mfg. Co. 17	Clark, Jeremiah 30	Grand Rapids Carved Mould'g Co. 6	Murphy, John, & Co. 8	Sinclair, S. H., Co. 27			
Aiken, Wm. Martin 21	Cleveland, Lorain & Wheeling R.R. 33	Grandy Bros. & Co. 6	Murray, Dougal & Co. 30	Situations Wanted. 21			
Akron Belting Co. 10	Climax Mfg. Co. 13	Graves Elevator Co. 38	Murray, James & Son. 36	Skinner Chuck Co. 10			
Albro, E. D., Co. 25	Cohoes Iron Fdy. & Mch. Co. 31	Gregory Co., C. E. 23		Smethurst & Allen 39			
Alifree, J. B., Mfg. Co. 17	Collins, H. E., & Co. 20	Guibert, John C. N. 10	N	Smith-Courtney Co. 9			
Aising, J. R., Co. 36	Columbia Encaustic Tile Co. 8	Guild & Lord. 33	National Pipe Bending Co. 17	Smith, S. Morgan. 35			
American Bonding & Trust Co. 119	Commercial Electric Co. 38	Guild & White. 6	National Provisioner Publish'g Co. 21	Smith & Kilby Co. 24			
American Cotton Oil Co. 32	Commercial Wood & Cement Co. 6		New Atlantic Hotel. 37	Snow Steam Pump Works. 34			
American Engine Co. 16	Consolidated Engineering Co. 6	H	N. J. Car Spring & Rubber Co. 10	Southeastern Lime & Cement Co. 6			
American Loan & Investment Co. 22	Consolidated Roofing Works. 40	Haines, Jones & Cadbury Co. 40	Newburg Ice Mch. & Engine Co. 17	Southeastern Plaster Co. 6			
American Ship Windlass Co. 18	Contractors' Plant Mfg. Co., Ltd. 4	Hains, Pe. er. C. 21	New Orleans Roofing & Metal Wks. 28	Southern Expanded Metal Co. 28			
American Supply Co. 31	Cook-Stoddard Mfg. Co. 17	Hales & Ballinger. 6	Newport News Shipbuilding & Dry Dock Co. 4	Southern Iron & Equipment Co. 24			
American Well Works. 35	Cordesman, Meyer & Co. 27	Harrington & King Perforat'g Co. 10	New York Equipment Co. 24	Southern Log Cart & Supply Co. 24			
Ames Iron Works. 16	Cortright Metal Roofing Co. 29	Harris, Wm. A., Steam Engine Co. 23	New York Machinery Depot. 23	Southern Lumber Directory. 25			
Apollo Iron & Steel Co. 20	Covert Mfg. Co. 29	Hartford Steam Boiler Inspection & Insurance Co. 8	Niagara Stamping & Tool Co. 29	Southern Pacific Co. 28			
Aragon Hotel 37	Crews & Westbrooks. 9	Hausburg, E. O. 10	Nicholson File Co. 29	Southern Railway Co. 28			
Arctic Machine Manufacturing Co. 4	Crook, W. A., & Bros. Co. 4	Heffernan, Wm. A. 29	Nordyke & Marmon Co. 8	Southern Real Estate Exchange. 28			
Armitage-Herschell Co. *	Crompton Loom Works. *	Heine Safety Boiler Co. 15	Norfolk & Western Railroad. 9	Southern Water Supply Co. 35			
Armstrong, Robt. S., & Bro. 23	Cronk Hanger Co. 9	Help Wanted. 21	North American Metaline Co. 9	Sperry, Jones & Co. 119			
Asbrand, C. W. 29	Culver Mfg. Co. 9	Hench & Dromgold. 27	Northrop, A., & Co. 29	Springfield Machine Tool Co. 12			
Atkins, E. C., & Co. 26	Cumberland I. & S. Shafting Co. 18	Hendrick Mfg. Co., Limited. 36	Norton Emery Wheel Co. 20	Sprout, Waldron & Co. 12			
Atkins, Jos. L. 21	Currie, Andrew 22	Hickman, Williams & Co. 24	Nye & Treddick. 34	St. Johnsville Agricultural Works. 36			
Atlanta Terra Cotta Co. 6	Curtis & Marble. 31	Hill, Clarke & Co. 12		Standard Paint Co. 28			
	Cutler Mfg. Co. 10	Hirsch, L. K. 24	O	Standard Tool Co. 40			
B	Cypress Lumber Co. *	Hogan Boiler Co. 15	Ober Lathe Co. 27	Starr, B. F., & Co. 19			
Babcock & Wilcox Co. 15		Holmes, E. & B., Machinery Co. 26	Obermayer, S., Co. 40	Steel Rail Supply Co. 23			
Bailey-Lebby Co. 37	D	Hoopes & Townsend Co. 13	Old Dominion Line. 33	Stender, Wm. L. 24			
Bailey, John T., & Co. 20	Dake Engine Co. 4	Hooven, Owens & Rentschler Co. 16	Olin Gas Engine Co. 17	Sterling Emery Wheel Mfg. Co. 24			
Baldwin Locomotive Works. 13	Dallett & Co. 24	Howard-Harrison Iron Co. 6	O'Neill Mfg. Co. 25	Stevens, H., Sons Co. 40			
Ball, Geo. C., & Co. 23	Damascus Bronze Co. 12		Otto Gas Engine Works. 17	Stevenson & Co. 8			
Ball Engine Co. 9	Davis, A. S. 22	I		Stewart, Jas., & Co. 6			
Baltimore, Chesapeake & Richmond Steamboat Co. 33	Davis Coal & Coke Co. 8	India Alkali Works. 30	P	Stewart Contracting Co. 6			
Baltimore Engraving Co. 29	Davis-Farrar Co. *	Indiana Machine Works. 27	Pancoast, Henry B., & Co. 13	Stilwell-Bierce & Smith-Vaile Co. 32			
Baltimore Storage & Light Co. 33	Davis Foundry and Mch. Works. 35	Ingersoll-Sergeant Drill Co. 20	"Pants" 22	Stow Flexible Shaft Co. Ltd. 9			
Barber Asphalt Paving Co. 21	Davis, Kelly & Co. 24	International Corres. Schools. 6	Paragon Mill and Machine Works. 19	"Stove Foundry" 22			
Barnes, W. F. & John, Co. 12	Dean Bros. Steam Pump Works. 34	J	Patrick & Carter Co. 39	Stow Mfg. Co. 10			
Barnett, G. & H., Co. 40	De Kalb, Courtenay. 6	Jamieson Fire-Resisting Paint Co. 28	Patapasco Rubber Co. 10	Struthers, Wells & Co. 16			
Battle Creek Steam Pump Co. 34	De Loach Mill Mfg. Co. 26	Jeffrey Mfg. Co. 19	Pauly Jail Bldg & Mfg. Co. 28	Sturtevant, B. F., Co. 31			
Bay Line. 33	Deming Co. 34	Jenkins Bros. 40	Paxon, J. W., & Co. 2	Sturtevant Mill Co. 26			
Beach, H. L. 27	Dempwolf, C. H., & Co. 37	Jenney Electric Motor Co. 38	Payne, Geo. W., & Co. 30	Sullivan Machinery Co. 37			
Beckley, A. J., & Co. 36	Detroit & Cleveland Stm. Nav. Co. 33	Jewell Belting Co. 11	Peacock, George. 4	Superior Gas Engine Co. 17			
Berkshire Mfg. Co. 23	Diaston, Henry, & Sons. 6	Johnson, Edwin Lehman. 6	Pease, F. M. 32		T	Taper Sleeve Pulley Works. 18	
Bertsch & Co. 28	Dixon, Jos., Crucible Co. 40	Johnson Tool Co. 9	Peck-Hammond Co. *	Penberthy Injector Co. 40	Taylor, J. H., & Co. 24		
Bealy, Chas. H., & Co. 40	Dodson, E. F., & Co. 6	Johnston 9	Pen-Mar. 33	Titus, E. E. 1			
Bethlehem Iron Co. 24	Doig, Wm. S. 40	Jones, D. W. 22	Pennsylvania Machine Co., Ltd. 23	Tompkins, D. A., Co. 30			
Big Four Route. 33	Donnelly, J. C. 27	Joseph, Isaac, Iron Co. 24	Pennsylvania State College. 6	Toomey, Frank. 23			
Bing, J. Howard. 15	Dopp, H. Wm., & Son. 18	Joseph, Jos., & Bro. 23	Perkins Mfg. Co. 25	Trenton Iron Co. 4			
Bird, Wm. M., & Co. 6	Dorner & Dutton Mfg. Co. 38		Pettee Machine Works. 31	Trevor Mfg. Co. 27			
Birmingham Boiler Works. 9	Dow Wire Works Co. 29	K	Philadelphia Bours. 9	Triumph Electric Co. 30			
Black Mfg. Co. 39	Draper, Geo., & Sons. 20	Kansas City Wheel Scraper Co. 8	Philadelphia Eng. Works, Ltd. 9	Tudor Boiler Mfg. Co. 17			
Blake, Geo. F., Mfg. Co. 34	Draper Machine Tool Co. 12	Keeler, E., Co. 15	Philadelphia Eng. Works, Ltd. 9	Tubular Packing Co. 1			
Block-Pollak Iron Co. 24	Dufur & Co. 29	Keystone Engine & Machine Wks. 9	Phila. Machine Screw Works. *		U	Union Central Life Insurance Co. 21	
Boomer & Boschert Press Co. 21	Dunning, W. D. 21	Kilbourne & Jacobs Mfg. Co. 40	Philadelphia Steel Roofing Co. 28		Union Electric Co. 39		
Boston Belting Co. 11	Duson, W. W., & Bro. 22	Kilburn, Lincoln & Co. 30	Pittsburg Locomotive Works. 13		Union Elevator & Machine Co. 8		
Bradford Mill Co. 12		Knowles Loom Works. 31	Place, George, Machine Co. 23		Union Foundry & Machine Works. 37		
Bradley Pulverizer Co. 36	E	Knowles Steam Pump Works. *	Pneumatic Engineering Co. 35		Union Iron Works Co. *		
Bradstreet Company. 1	Easton & Burnham Machine Co. 31	Knox, Henry E., Jr. 6	Pomona Terra Cotta Co. 6		U. S. Fidelity & Guarantee Co. of Baltimore. 119		
Branson Machine Co. 30	Eccles, S., Jr. *		Porter, H. K., & Co. 13		U. S. Machine Co. 27		
Brightman Furnace Co. 15	Eisenbrandt Cycle Co. 8	Lane Manufacturing Co. 27	Poulterer & Co. 23		U. S. Sanitary Co. 1		
Brooks, T. H., & Co. 29	Electric Storage Battery Co. 38	Lawrence Cement Co. 20	Powhatan Clay Mfg. Co. 10		V	Valk & Murdoch Iron Works. 15	
Brotherhood, F., Receiver. 23	Electrical Supply & Telephone Co. 39	Leathley, Wm., & Co. 34	Pratt, N. P., Laboratory. 6		Valley Iron Works. 9		
Brown, A. & F. 18	Empire Glass & Decoration Co. 1	Leffel, James, & Co. 28	Price & Co. 25		Van Winkle, E., Gin & Mch. Wks. 30		
Brown Hoisting & Con. Mch. Co. 2	Empire Paint & Roofing Co. 28	Lewis, W. S. 35	Price & Heald. 24		Vulcan Works. 30		
Buckeye Iron and Brass Works. 32	Engelberg Huller Co. 8	Lidgerwood Manufacturing Co. 4	Providence Machine Co. 31			W	Wais & Roos Punch & Shear Co. 23
Buffalo Forge Co. 40	Enterprise Boiler Co. 15	Link-Belt Engineering Co. 19	Puech & Frenet. 32		Walker & Elliott. 36	Walker, George W. 36	Warren Chemical & Mfg. Co. 28
Bureau of Freight and Transportation, Charleston, S. C. 20	Enterprise Machine Works. 23	Lombard Iron Wks. & Supply Co. 9	Pulsometer Steam Pump Co. 34		Waslekar, N. N., & Co. 6	Waslekar, N. N., & Co. 6	Watkins & Hardaway. 6
Burnham Bros. 35	Erwin Hydraulic Machinery Co. 35	Lowell Machine Shop. 30			Way, W. S. 6	Way, W. S. 6	Wedge, Warren, & Co. 18
Burrows, E. T., Co. 29	Etting, Edward J. 4	Louque, Wm. N. 22			Wedderburn, John, & Co. 21	Wedderburn, John, & Co. 21	Weir Frog Co. 28
Bushnell, G. H., Press Co. 32	Exchange Banking & Trust Co. 22	Ludlow, J. L. 6			Wells Light Mfg. Co. 28	Wells Light Mfg. Co. 28	Western Electrical Supply Co. 29
Byers, Jno. F., Machine Co. 4		Ludlow-Saylor Wire Co. 29			Westinghouse, Church, Kerr & Co. 33	Westinghouse, Church, Kerr & Co. 33	Westinghouse Elec. & Mfg. Co. 30
Byrne, P. 6	F	Ludlow Valve Mfg. Co. 35			Westinghouse Machine Co. 30	Westinghouse Machine Co. 30	West Virginia Bridge Works. 28
	Falls Rivet & Machine Co. 18	Lunkenheimer Co. 40			Wetherill, J. P., Machine Co. 9	Wetherill, J. P., Machine Co. 9	Whaley, W. B. Smith, & Co. 6
	Fay, J. A., & Egan Co. 26	Lyon, A. I. *			White, H. L., & Co. 33	White, H. L., & Co. 33	Wheeling & Lake Erie Railway. 33
	Fay Manila Roofing Co. 29				White, L. & I. J., Co. 27	White, L. & I. J., Co. 27	Whitinsville Spinning Ring Co. *
	Fernandina Oil & Creosote Works. 24	M			Whitney & Sloc Co., Ltd. 11	Whitney & Sloc Co., Ltd. 11	Wilkinson Mfg. Co. 15
	Fifield Tool Co. 12	Main Belting Co. 10			Willer Mfg. Co. 39	Willer Mfg. Co. 39	Williams Bros. 34
	Fleming Mfg. Co. 8	Makepeace, C. R., & Co. 6			Williams, I. B., & Sons. 11	Williams, I. B., & Sons. 11	Williams, John L., & Son. 119
	Flush Tank Co. 35	Mann & Co. 21			Williams, M. F., & Co. 36	Williams, M. F., & Co. 36	Williamsport Machine Co. 28
	Foos Gas Engine Co. 17	Manufacturers' Aut. Sprinkler Co. 21			Wilson, Joseph R. 15	Wilson, Joseph R. 15	Wilson, R. M. 10
	Foos Mfg. Co. 36	Marion Steam Shovel Co. 2			Wolf, Aug., & Co. 19	Wolf, Aug., & Co. 19	Wolf, Fred. W. 4
	Forbes, W. D., & Co. 17	Martin, Henry, Brick Mch. Mfg. Co. 9			Wood, R. D., & Co. 30	Wood, R. D., & Co. 30	Woodford, N. B. 33
	Force & Briggs. 17	Martinez & Maddas. 6			Woolverton & Tinsman. 23	Woolverton & Tinsman. 23	Worthington, Henry F. 20
	Forsyth, S. C., Machine Co. 12	Maryland Mfg. & Construction Co. 16			Wrightsville Hardware Co. 10	Wrightsville Hardware Co. 10	Wyckoff, Seaman & Benedict. 21
	Fort Wayne Electric Corporation. 39	Maryland Steel Co. 14					
	Fort Wayne Safety Valve Works. 1	Maryland Trust Co. 119					
	Foster Machine Co. 31	Mason Machine Works. 30					
	Franklin Elec. & Mfg. Co. 38	Mason Regulator Co. 16					
	Freese, E. M., & Co. 8	Matheny, J. W., Clerk. 21					
	French, Saml. H., & Co. 8	Maxwell-Mason Tele. Mfg. Co. *					
	Frick Co. 16	McClave, Brooks & Co. 15					
	Froehling, Dr. Henry. 6	McCully, R. 36					
	Fuel Economizer Co. 15	McFadden, Chas., Jr. 6					
		McGowan, John H., Co. 35					
		McKenna, David. 1					
		McKerrow, H. G., & Co. 30					
		McLanahan & Stone. 36					
		Mecklenburg Iron Works. 16					
		Melton, A. L. 16					
		Merchants & Miners' Transp. Co. 33					
		Michel, P. F. 1					
		Middendorf, Oliver & Co. 119					
		Milner & Kettig Co. 2					
		Minnigerode, Wm. 24					
		Mitshkun, M., & Co. 24					
		Morganton Land & Improvem't Co. 22					
		Morse, Williams & Co. 38					
		Mueller, H., Mfg. Co. 35					
		Mundt & Sons. 36					

PROPOSALS.

UNITED STATES ENGINEER OFFICE.
9 Pleasant Street, Baltimore, Md., August 22, 1896.—Proposals for dredging ship channel leading to harbor at Baltimore will be received until noon October 1, 1896, and then opened. For information apply to PETER C. HAINS, Col., Engineers.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., September 2, 1896.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 29th day of September, 1896, and opened immediately thereafter, for all the labor and materials required for the plumbing and gas piping for the U. S. Courthouse, Postoffice, etc., at Omaha, Neb., in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Omaha, Neb. Each bid must be accompanied by a certified check for a sum not less than 2 per cent of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid should it be deemed in the interest of the Government to do so. All proposals received after the time stated will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked, "Proposal for Plumbing and Gas Piping for the U. S. Courthouse, Postoffice, etc., at Omaha, Neb.," and addressed to WM. MARTIN AIKEN, Supervising Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., September 3, 1896.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 30th day of September, 1896, and opened immediately thereafter, for all the labor and materials required for the approaches to the U. S. Courthouse, Postoffice and Custom-House building at Sioux City, Iowa, in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Sioux City, Iowa. Each bid must be accompanied by a certified check for a sum not less than 2 per cent of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid, should it be deemed in the interest of the Government to do so. All proposals received after the time stated for opening will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked, "Proposal for the Approaches to the U. S. Courthouse, Postoffice and Custom House building at Sioux City, Iowa," and addressed to WM. MARTIN AIKEN, Supervising Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., September 2, 1896.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 25th day of September, 1896, and opened immediately thereafter, for all the labor and materials required to put in place complete the steel and iron work of roof, etc., of the U. S. Postoffice and Courthouse, Kansas City, Mo., in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Kansas City, Mo. Each bid must be accompanied by a certified check for a sum not less than 2 per cent of the amount of the proposal. The right is reserved to reject any and all bids and to waive any defect or informality in any bid should it be deemed in the interest of the Government to do so. All bids received after the time stated will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked, "Proposal for the Steel and Iron Framing of the Roof, etc., of the U. S. Postoffice and Courthouse, Kansas City, Mo.," and addressed to WM. MARTIN AIKEN, Supervising Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., August 28, 1896.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 18th day of September, 1896, and opened immediately thereafter, for furnishing and putting in place the laundry machinery for the U. S. Marine Hospital building at New Orleans, La., in accordance with the drawing and specification, copies of which may be had at this office or the office of the Custodian, New Orleans, La. Each bid must be accompanied by a certified check for a sum not less than ten per cent of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid should it be deemed in the interest of the Government to do so. All proposals received after the time stated for opening will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked, "Proposal for Laundry Machinery for the U. S. Marine Hospital, New Orleans, La.," and addressed to WM. MARTIN AIKEN, Supervising Architect.

Proposals For Building A Fire-Proof Jail, Etc.

AT FINCASTLE,
BOTETOURT COUNTY,
VIRGINIA.

Proposals for building fire-proof jail building, with steel cells and fixtures, in accordance with general plans and specifications now on file in the office of the Board of Supervisors of Botetourt County, in Fincastle, Virginia, and also in the office of the Manly Manufacturing Company, of Dalton, Ga., to which firm reference can be made as to same, will be received by the Supervisors of said county until 3 o'clock P. M. on Monday, September 23, 1895, at Fincastle, Va.

Proposals to be accompanied by a certified check in the sum of Three Hundred Dollars, as guarantee that bond will be given, with approved security, in the sum of Five Thousand Dollars for execution of contract, if awarded.

The Supervisors reserve the right to reject any and all proposals.

By order of the Board,

J. W. MATHENY, Clerk.

HELP WANTED.

Advertisements under this head are inserted free of charge for readers of the MANUFACTURERS' RECORD. Advertisements must not exceed five lines—about thirty words—and four insertions will be given without charge.

WANTED.—A man thoroughly acquainted with the manufacture of sulphuric acid from pyrites; also acquainted with the manufacture of commercial fertilizers. Must be competent to superintend construction of plant. Address J. C. FOSTER, Sheffield, Ala. 525

SITUATIONS WANTED.

Advertisements under this head are inserted free of charge for readers of the MANUFACTURERS' RECORD. Advertisements must not exceed five lines—about thirty words—and four insertions will be given without charge.

EXPERIENCED Draughtsman, superintendent for erection, wants position with engineer, architect or manufacturing firm. Address E. C. F., care Mfrs. Record. 52

WANTED.—A position as superintendent of a sash, door and blind factory; young man with fifteen years' experience. Address 119 Lock Box, Hickory, N. C. 52

YOUNG man twenty-six years' old, good habits, ten years' experience at office work would like to engage with some prominent business firm. Good penman. Quick, accurate, competent. At present holds a responsible position, and for good reasons wants to make a change. Address EXPERIENCE care Manufacturers' Record. 525

WANTED.—By a sober and industrious man position as superintendent of yarn mill who understands his business. Good references. Address J., care Manufacturers' Record. 525

WANTED.—Position by mechanical engineer and machinist as salesman, to represent manufacturer on the road. Southern man. Splendid knowledge of cotton machinery. Address B. C., care Manufacturers' Record. 525

A GRADUATE of the Bryant and Stratton Business College who has fourteen years' experience in partnership and joint stock company work wants a place with some reliable house; best of references furnished. Address A. J. GULLAHORN, Brownwood, Texas. 525

WANTED.—Position by machinist; twenty years' experience in the manufacture and erection of various kinds of machinery as foreman of shop or consulting engineer and salesman for machinery supply company; many years' experience as superintendent of cottonseed oil mills and fertilizer factories; not afraid of work; best references as to character and ability. Address W. C. G., Goliad, Texas. 518

SUPERINTENDENT, thoroughly understanding the manufacture of cotton goods, desires engagement; refers to responsible parties and solicits correspondence; South preferred. Address W. S. P., care Mfrs. Record. 518

TECHNICAL GRADUATE, age 27, assistant editor of an engineering paper, wants position as assistant superintendent of a factory; salary \$1800. Address M. E. C., care Manufacturers' Record. 511

Wanted—An Idea Who can think of some simple thing to patent? Protect your ideas; they may bring you wealth. Write JOHN WEDDERBURN & CO., Patent Attorneys, Washington, D. C., for their \$1,000 prize offer and list of two hundred inventions wanted.

A NEW ON THE PRESS! BOOK

TO BE PUBLISHED...
ABOUT OCTOBER 15th.

A COMPLETE TREATISE
ON...

The Manufacture of Cottonseed Oil
AND BY-PRODUCTS.

PRICE \$2.00 PER COPY.

Advertising Rates.

FULL PAGE... \$35.00
ONE HALF PAGE... 20.00
TWO PAGES... 60.00
Cover pages and preferred positions 25% extra.

A COMPLETE REVISED LIST OF COTTON OIL MILLS

The National Provisioner Publishing Co.
ROBT. GANZ & CO, Proprietors,
284 PEARL STREET, NEW YORK.



ASPHALT PAVEMENTS

Enhance the Value of Property One-Third.
DURABLE HEALTHFUL NOISELESS
20,000,000 square yards laid in eighteen years.
For plans and estimates apply to
THE BARBER ASPHALT PAVING COMPANY,
1 Broadway, New York City.



Absolute Protection from

. FIRE .

OBTAINED by the Use of

The "Non-Corrosive" Automatic
Sprinkler System.

It will reduce your insurance from 25 to 50 per cent. Endorsed by the Eastern mutuals and all stock insurance companies. We can furnish facts on this subject of value to you.

MANUFACTURERS' AUTOMATIC SPRINKLER CO.

136 Liberty Street, New York City.

FIRE INSURANCE.

H. L. White & Co., 19 Liberty Street, - - - New York City.

Insurance placed on all classes of property. References furnished.

FIRE INSURANCE

AT
LOWEST RATES ON RECORD.
CATLIN & BROWNE, 56 & 58 PINE STREET, NEW YORK.

Inwrought

into
the number



Remington

Standard Typewriter

are certain sterling qualities of Excellent Construction and Reliable Service for which all Remington models have always been famous. LIKEWISE... Scientific Improvements notably increasing its usefulness and durability.

Wyckoff, Seamans & Benedict
327 BROADWAY, NEW YORK
BALTIMORE BRANCH:
131 East Baltimore Street.

PATENTS.

Caveats, Trade Marks,
Designs, Etc.

Report as to patentability of invention FREE OF CHARGE. Unsurpassed facilities. Moderate terms. Before applying for a patent write us. All information and advice FREE.

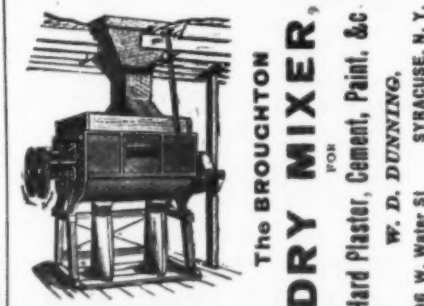
GLASCOCK & CO.
606 F St. N. W. Washington, D. C.

THE UNION CENTRAL LIFE INSURANCE COMPANY

of Cincinnati, Ohio.
Assets over \$13,000,000.
"One of the most pushing, thriving life companies in the land."—Ins. Age, N. Y. City.
Highest interest rate. Lowest death rate.
Safest investments.
JOHN M. PATTISON, E. P. MARSHALL,
President, Secretary.
JOHN A. HERNDON, Jr., State Agent,
Manufacturers' Record Bldg. Baltimore, Md.

THE BOOMER & BOSCHERT KNUCKLE JOINT

PRESS
FOR BALING
Cloth, Paper, Yarn, &c.
Or for any other purpose requiring great pressure.
BOOMER & BOSCHERT PRESS CO.
286 W. WATER ST., SYRACUSE, N. Y.



Is Your Invention Patented?

It is my business to secure PATENTS FOR INVENTORS.
Write for information.

JOSEPH LEICESTER ATKINS, Attorney at Law,
Washington Loan & Trust Co. Bldg., WASHINGTON, D. C.

MANN & CO.
PATENT ATTORNEYS,
Equitable Building, BALTIMORE, MD.

SPECIAL Advertisements OF GENERAL Interest.

OPPORTUNITIES FOR INVESTORS.

OWNERS of 600 Acres of elevated land adjoining the suburbs of the City of Shreveport, Louisiana, have given to MR. ANDREW CURRIE an option on the same at very low prices, to induce industrial enterprises to invest and locate. The city handles 100,000 bales of cotton, and its new railroad connections tap extensive forests of pine of which MR. CURRIE has 30,000 acres for sale, interspersed in the glades with gum, beech, hickory, holly, magnolia and a variety of oak. Address
A. CURRIE, Shreveport, La.

A GENTLEMAN OR LADY with not less than \$10,000 cash can find a safe and profitable investment, and a pleasant and lucrative position by writing the General Manager of the **AMERICAN LOAN & INVESTMENT CO.**, 216 Main Street, Houston, Texas.

GEORGIA LANDS.

Abstracts furnished. Titles insured. Property managed and handled for non resident owners. Examinations and reports made as to the value and condition of lands. Timber lands bought and sold. Capital, \$50,000.

GEORGIA TITLE GUARANTORS' CO.
409 & 411 Temple Court, ATLANTA, GA.

....FOR SALE....

An Old Established

STOVE and JOB FOUNDRY

which has been doing a successful business for a great many years. Owing to the death of the owner, and the adjustment of his estate, it will be necessary to close this out to the highest bidder. It can be moved to another city or established elsewhere in the same city. Any reasonable offer to lease the plant or manufacture or royalty would be consid. red. Also Patents, Patents, etc., of great value. Address

"STOVE FOUNDRY,"

Care MANUFACTURERS' RECORD.

COAL 2000 acres on railroad and waters of Monongahela River, near Clarksburg, W. Va., consisting of Pittsburg vein 9 feet thick. Cannot be excelled for coke or gas. Perfect location. Very low freight rate. Can be bought cheap.

TIMBER 55,000 acres of finest timber land in Western North Carolina. Expert estimates that it will cut 791,000,000 feet of merchantable lumber. Title absolutely perfect. Guaranteed to come up to representations. The cherry timber alone will almost pay for the land. Price very low.

OIL Territory in Harrison, Lewis and Gilmer counties, West Virginia, ready for development. Want operators to put down test wells. We have fine tracts of coal, timber and farm lands in addition to the above in W. Va., Ky. and Tenn. Full particulars on application. Address **THE SOUTHERN REAL ESTATE EXCHANGE**, Clarksburg, W. Va.

....FOR SALE....

A VALUABLE TRACT CONTAINING OVER 1000 ACRES OF PERFECT DRAINED LANDS.

Situated at the foot of the proposed GREAT BRIDGE across the Mississippi river at New Orleans for sale.

These lands are located three miles above the city of New Orleans, and on the same side of the river; the line surveyed and adopted for the bridge crosses the property about center.

Will sell at reasonable price; terms easy.

For further information address

WM. N. LOUQUE,
Hennen Building, New Orleans.

CHARLESTON, S. C.

For Sale Several Fine Residences and Choice Building Lots.

An ideal city for a winter home, full of historic interest, and a climate soft and mild in winter, but not hot enough to be enervating. Cost of living is cheap.

The City of Charleston's water supply is obtained from artesian wells, and it has recently been proven to be a valuable dyspeptic cure when used as drinking water, and a rheumatic cure when bathed in hot.

Also Farming Lands near Charleston, S. C., suitable for market gardening, which is a large and profitable industry in the vicinity of Charleston. For further particulars address

Exchange Banking & Trust Company,
CHARLESTON, S. C.

MANUFACTURERS' attention is called to the large six-story Central Power Station of the Capital Traction Company, covering an entire block in the very centre of the business section of the nation's capital city. Suitable space for light manufacturing plants and other business, with power, heat and electric light, can be obtained at moderate rates. Address

CAPITAL TRACTION COMPANY,
Washington, D. C.

BALSAM MOUNTAIN, A VALUABLE PROPERTY.

Mineralized in all directions. The minerals being Gold, Silver, Tin, Nickel, Copper, Corundum, Kaolin, Feldspar, Fourmaline, etc. A property to suit a syndicate or capitalist. Topographically unexcelled. Splendid water and timber. Near railroad; down grade. For Sale, or would capitalize. A. S. DAVIS, PORT DEPOSIT, MD.

Business Opportunity.

WANTED—A practical man in the manufacture of Cheap PANTS for the jobbing trade, who can invest some capital with others in starting a factory. A fine opportunity for the right man. City of 25,000 people; large jobbing trade; cheap labor and first-class distributing facilities. Address PANTS, Box 153, Lynchburg, Va.

FOR SALE.

200 ACRES OF COAL

with Coke Ovens, Tipple and Mine Equipments in complete running order; capacity of mine 300 tons per day. Located near Clarksburg, W. Va., on main line of B. & O. R. R. Inquire of

D. W. JONES,
LATROBE, PA.

While Others Hesitate You

CAN OBTAIN A HOME IN SOUTHWESTERN LOUISIANA

Where Real Estate has increased 500 per cent. in the last few years. If you contemplate going South, why not go where there is no over-production of agricultural products, there is no over-production of Sugar or Rice, the two principal crops of this section.

Choice fruits and early vegetables always bring good prices, especially if placed on the market of the world when other sections of the country are frozen up.

If you want to enjoy perfect health and live where all the conditions of life are most favorable, then seek the Coast Country of Southwest Louisiana, of which the town of CROWLEY is the centre.

A FINE STOCK COUNTRY, RICH FRUIT LANDS well adapted to the growing of Hay, Oats, Corn, Cotton, Rice, Sugar-cane and all of the semi-tropical fruits. The opportunities that are there offered are fast being taken up. If you will write to

W. W. DUSON & BRO.

CROWLEY, LA., they will send you a map of this section and their new book, "Come and See," which will furnish you full information about this favored land.

Sale of Valuable Iron Mining Property and City Lots.

By virtue of the decree and pursuant to the orders of the Superior Court of Gaston County, in the case of Ballard & Wiley, Trustees of B. L. Duke vs. the Bessemer Mining Company and others, the undersigned, receivers and commissioners, appointed by said court, will, on Tuesday, the 8th day of September, 1896, at 10 o'clock A. M., at the office of the Bessemer Mining Company, in Bessemer City, N. C., sell at public auction to the highest bidder, on the terms hereinafter named, the entire property, real and personal and mixed, and assets of every kind and description, belonging to the Bessemer Mining Company, corporation, consisting of about seventeen (1700) hundred acres of land in and near the town of Bessemer City, N. C., lying on both sides of the Charlotte & Atlanta Division of the Southern Railway, and constituting the valuable mining plant of said Bessemer Mining Company, machinery, tools and appliances, office furniture and fixtures, ores on hand, etc., to be sold in a body as a whole. A full, complete and more particular description of said lands and mineral and timber rights, easements and privileges, may be found on reference to the several deeds to said Bessemer Mining Company for the same, which are in the possession of the undersigned, and are duly registered in the office of the Register of Deeds for the county of Gaston, in the State of North Carolina, obtained by said Bessemer Mining Company from the following named corporations and individuals, to-wit: From the Bessemer City Mining & Manufacturing Company; from the Consolidated Manufacturing Company; from the Fidelity Bank of Durham, N. C., trustee; from J. A. Smith and wife; J. A. Pinchback; R. D. Ormand and wife; Benjamin Ormand and wife; Jacob Ormand and others.

At the same time and place the undersigned will offer for sale at public auction as aforesaid a very large number of city lots belonging to said Bessemer Mining Company, located in said town of Bessemer City, N. C., and suitable for building lots, for residence and business purposes, laid down upon W. R. Richardson's survey and map of Bessemer City, N. C., which will be designated and pointed out to purchasers on the day of sale. Also the "Fire Clay" tract of land in Cleveland county, referred to and conveyed to said Bessemer Mining Company by said Bessemer City Mining and Manufacturing Company by the deed registered in book No. 20 (deeds), page 523, in the office of the register of deeds of Gaston county, and also described in the deed to said J. A. Smith from R. N. Patterson and others, dated March 24, 1891, registered in the office of the register of deeds for Cleveland county in book No. "B. B." of deeds, page 223.

TERMS OF SALE.

One-third of the purchase money to be paid in cash on the day of sale, and the balance of the purchase money to be paid within twelve (12) months from and after the day of sale, with interest from the day of sale on the deferred payment. Possession to be given the purchasers on receipt by the undersigned of the one-third cash payment on the purchase money, and the purchaser to be thereafter responsible for, and liable to pay all taxes assessed against the property purchased by him, and title deeds withheld as security for the deferred payment. It will be optional with purchasers to anticipate and pay the deferred payments of the balance of the purchase money at any time after the day of sale, and within the twelve months aforesaid, and thereby stop the accruing of interest on the deferred payment.

Any further information desired concerning said property, and the sale thereof, may be obtained on application to the undersigned.

Dated July 3d, 1896.

J. S. CARR,
of Durham, N. C.

E. T. CARRINGTON,
of Bay City, Michigan,
Receivers and Commissioners

....FOR SALE....
20,000 trees WHITE and RED OAK, from 24 inches to 5 feet in diameter.
20,000 acres of RED and BLACK CYPRESS,
118,000 acres of LONG LEAF YELLOW PINE,
25,000 acres of ELM TIMBER. Address
JOHNSTON,
208 Kiser Law Building, ATLANTA, GA.

WESTERN NORTH CAROLINA LANDS

Farms, Timber Lands, Water Powers and choice City Property in the fertile Catawba Valley among the Carolina Mountains. Write for illustrated pamphlet, "Catawba Valley and Highlands."

MORGANTON LAND & IMPROVEMENT COMPANY
MORGANTON, N. C.

FOR SALE OR LEASE.

A New Building

of 10,000 square feet of floor surface, well suitable for small factory—seap, rope, twine or something of the kind.

Ten Acres of Land

on Southern Railway. Will sell or lease, and take an interest in any enterprise that will take it.

Address quick
GEO. W. WARING,
COLUMBIA, S. C.

Do You Want to BUY

GOLD MINES?
MICA MINES?
MONAZITE MINES?
TIMBER LANDS?
FARMING LANDS?
FRUIT-RAISING LANDS?

WRITE ME.

I have lots of such property for sale ranging from 100 to 11,200 acres in extent.

S. CALLERT,
Rutherfordton, N. C.

Glass Factory

FOR SALE.

Under and by virtue of the authority vested in the undersigned trustees by that certain deed of trust, executed by the HUNTINGTON GLASS COMPANY, bearing date on the 1st day of March, 1894, and recorded in the Clerk's Office of the County Court of Cabell County, in trust deed book number thirty (30) at page one hundred and thirty-one (131) et seq., default having been made and continued for six months in the payment of the interest coupons, and having been so requested in writing by a holder of some of the bonds, secured by said trust deed so to do, the undersigned will on the

EIGHTH DAY OF OCTOBER, 1896,

at 2 o'clock P. M., on the premises, situate in Central City, Cabell County, West Virginia, sell to the highest bidder, all the property, real and personal, franchises and liberties in said trust deed conveyed, and therein described as follows: "All that certain piece or parcel of land situate in Central City, Cabell County, West Virginia, bounded on the north by Virginia Avenue, on the east by Fourteenth Street, on the south by Washington Avenue, on the west by Fifteenth Street, which said lot of land is designated on the official map of said Central City, made by George McKendree, Engineer, a copy of which was filed in the Clerk's Office aforesaid on the 31st day of October, 1891, as block number ninety-four (94), being four hundred feet by three hundred and thirty feet, together with all and singular the buildings, warehouses and shops, railroad switches, together with all the furnaces, gas producers with their connections, mold shop, machinery and tools, office furniture and fixtures, presses, fixed machinery and miscellaneous property, consisting of tools and other machinery used in the manufacture and selling of glassware and composing the present plant of said glass company."

TERMS OF SALE.

One-third of the purchase money thereof cash in hand on day of sale, and the balance in two equal instalments at six and twelve months, the purchaser executing his notes with good personal security for the deferred payments, bearing six per cent. interest.

The legal title of said property will be retained as further security for the deferred instalments of the purchase money.

Given under hands as trustees this 5th day of September, 1896

C. W. CAMPBELL,
JOHN H. HOLT,
Trustees.

ARE YOU INTERESTED IN THE SOUTH?

If so, you cannot afford to miss reading the MANUFACTURERS' RECORD every week. We want your subscription. Price \$4.00 a year. Subscribe TO-DAY.

FOR SALE.

Works of the Phosphate Mining Co., Limited

Under order of the
United States Circuit Court for the District of
South Carolina.

The valuable piece of property, being the works of the Phosphate Mining Co., Limited, generally called Brotherhood's, situated about 1 1/2 miles from Port Royal, S. C. Consisting of about 24 acres, more or less. Having a river frontage on Battery Creek of 971 feet, with fine wharves, etc. Convenient for loading ocean steamers (have from this point carried down steamers loaded to 21 ft. 6 in.) The Port Royal & Augusta Railroad passes through the property and has suitable switch conveniently located.

On property is fine large open shed some 240 feet by 70 feet, brick piers, with three railroad tracks overhead. Other desirable warehouse buildings, with overhead railroad trestles from wharves, boiler-house, etc. Desirable dwelling-houses and outhouses. Fine artesian well and large brick cisterns.

A most desirable site for Cotton Mill, Manufacturing, Warehouse purposes, Ocean Shipments.

For particulars apply to

F. BROTHERHOOD, Receiver,

53 Hayne Street, CHARLESTON, S. C.

To Dredging Contractors.

For sale under order of United States Circuit
Court for South Carolina.

The powerful elevator dredge John Kennedy, recently in use dredging South Carolina river phosphate rock.

Can be readily converted for ordinary dredging purposes, working in from 10 feet to 42 feet of water.

Especially constructed for dredging very hard material. Can be seen at Phosphate Mining Co., Limited, works near Port Royal, S. C.

For particulars, etc., apply to

F. BROTHERHOOD, Receiver,

53 Hayne Street, CHARLESTON, S. C.

FOR SALE.

Under order of the
United States Circuit Court for the District of
South Carolina.

A number of 120-ton LIGHTERS, very strongly built and in good condition.

One 60 horse-power Return Tubular Boiler, complete, with independent fronts, smoke stack and fittings.

One Head & Sisco Centrifugal Pump, 10-inch discharge, with vertical engine driving direct. (See planter's attention called to above.)

A number of Williamson Friction Hoisting Engines.

One Steam crane to lift three ton; radius of jib 15 feet.

One Steam Travelling Crane to lift ten ton; radius of jib variable up to 20 foot; gauge of track 6 feet; complete, with boiler and water tank.

One Blake Steam Pump, 10x12x12; suction 6 inch, discharge 4 inch.

One Blake Steam Pump, 4 1/2 x 5 1/2 x 8; suction 1 1/2 inch, discharge 1 inch.

Two Blake Plunger Feed Pumps, 5 1/2 x 3 1/2 x 7; suction 2 inch, discharge 1 1/2 inch.

A Small Air Compressor.

Steam Cylinder 3 1/2 in. dia., 6 in. stroke.

Air Cylinder 3 1/2 in. dia., 6 in. stroke.

Also a Riveted Steel Receiver for above, 30 in. dia. by 4 ft. Has been used in connection with Lucien Light, but as good as new.

One Phosphate Rock Tub Washer, complete, with shelling, gears, etc., and duplicates.

Complete Blacksmith Shop Outfit.

Two Steel Cylinder Washers for phosphate rock, complete, with rollers and gearing.

Two pair of powerful Crusher Rolls for phosphate rock, complete, with pulleys and gearing.

Two Direct Acting Steam Elevators, with carriage, etc.; steam cylinder 15 inch by 17 feet 9 inch lift, and steam cylinder 20 inch by 16 feet 9 inch lift.

Pile Driver Frame, 1800-pound hammer and fixtures.

Punching Machinery, one H. C. Pond Co.'s make, one Watson & Skillman, No. 5.

Artesian Well Tools, Platform Scales from 200 pounds to 16,000 pounds.

Eight good Rock Field Cars, 3 foot gauge; two Dumping Frames for ditto.

Dry Shed Side Dumping Cars, 3-foot gauge, Shelling, Pulleys, etc.

Assorted Piping and Fittings, etc.

Steam and Water Hose and valuable Tools, Materials, etc., etc.

For particulars apply to

F. BROTHERHOOD, Receiver,

53 Hayne Street, CHARLESTON, S. C.

Bargains in Machinery

FOR IMMEDIATE DELIVERY



High-Grade
Machine
TOOLS.
Engines,
Boilers
and
Wood-
Working
MACHINERY.

31 N. SEVENTH STREET,
PHILADELPHIA, PA., U. S. A.
AT YOUR SERVICE, GENTLEMEN!

SECOND-HAND MACHINERY.

One Iron Planer, 60x60 in. x 32 ft.
One Iron Planer, 50x50 in. x 10 ft.
One Iron Planer, 24x24 in. x 5 ft.
One Iron Planer, 5 ft. 26x24 in., New Haven.
and various other sizes.
One Engine Lathe, 29 in. x 15 ft., Fitchburgh.
One Engine Lathe, 53 in. x 18 ft., L. W. Pond.
One Engine Lathe, 15 in. x 6 ft., D. W. Pond.
One Putnam Lathe, 14 ft. x 30 in. swing.
One 18 ft. Pit Lathe.

and various other sizes.
One 28-in. B. G. Self-feed New Haven Drill.
One 36-in. Back Geared Drill.
One 2000-lb. Ferris & Miles Steam Hammer.
One 700 lb. Eureka Steam Hammer.
One 60-lb. Bradley Helve Hammer.
One 50-lb. Dieneit Spring Hammer.
One 350-lb. Steam Hammer.

NEW YORK MACHINERY DEPOT, 178 B'way, N. Y.

MACHINERY BARGAINS

Before Removal from the Works of Phoenix Iron
Works, Trenton, N. J.

Engine Lathes
15 in. x 6 ft.
18 in. x 8 ft.
22 in. x 12 ft.
24 in. x 12 ft.
26 in. x 20 ft.
29 in. x 13 ft.
29 in. x 13 ft.
37 in. x 30 1/2 ft.
50 in. x 20 ft.
72 in. x 20 ft.
24 in. x 5 ft.
36 in. x 12 ft., 2 heads.
36 in. x 14 ft.
60 in. x 10 ft., 2 x rails.
12 in. stroke Shaper.
19, 36 and 50 in. Drills.
19 in. stroke Slot. Mch., Bement
2 in. Bolt Cutter.
80-lb. Bradley Hammer.
1000-lb. Steam Hammer.
Punch and Shear, double.
10-ton Boom Derrick, with guy ropes, 10-16 ft.
Vertical Boring and Turning Mill, Gear Cutter,
Blower, Vises, Anvil, Cranes, &c.
Write for prices and Description.

GEORGE PLACE MACHINE CO.
145 B'way and 86 Liberty St., NEW YORK

LOOMS

FOR SALE.

51 Crompton single box, 40 1/2 inch reed space,
and 9 English Clipper, 40 inch reed space. Looms
for sale. For particulars apply to

THE BERKSHIRE MFG. CO., Ltd.

Church Street, FRANKFORD, PA.

Saw Mill

FOR SALE

TO CLOSE AN ESTATE.

Almost new, Engine, Boiler, Band Mill, two
Gauges, Lath and Picket Mill, Trucks, etc.

Also 6000 feet T Rails.
Sold at a bargain on very easy terms.

Address

WOOLVERTON & TINSMAN,

WILLIAMSPORT, PA.

Dynamos and Motors

100 (SECOND-HAND) FOR SALE.

WRITE FOR LIST.

Repairing.

Factory open day and night.

Chesley Electric Co., - Hoboken, N. J.

Havameyer Bldg., New York City.

FOR SALE CHEAP.

Incandescent DYNAMOS.

1 50-light Edison, 1 50-light Kester, 1 60-light
United States, 1 75-light Mather, 1 90-light Mather,
1 110-light Westinghouse, 2 125-light United
States, 3 150-light Mather, 1 165-light Royal, 1 180-
light Westinghouse, 1 225-light Mather, 1 250-
light United States, 1 325-light Jenny, 3 360-light
United States, 1 425-light Westinghouse, 1 450-
light Edison, 1 500-light Thomson-Houston, 1 500-
light Western Electric, 1 540-light Edison, 1 800-
light Thomson-Houston, 1 1000-light Standard
Multipolar. For complete list see our monthly
BARGAIN SHEET, mailed on application; also
Arc Dynamos, Motors, Power Generators, etc.

CHAS. E. GREGORY CO.,

47-49 S. Jefferson St., CHICAGO

LATHES

FOR

Immediate Delivery.

20 in. swing, with 6, 10 and 12 ft. bed.

22 " " " 8, 10 " 14 " "

26 " " " 16, 20 " 26 " "

30 " " " 14, 18 " 24 " "

40 " " " 16, 22 " 27 " "

50 " " " 18 and 28 " "

2d-hand 50x25 lathe with taper attachment.

One of each.

Send for cuts and prices.
We have in stock constantly, all parts of
lathes from 17 to 64 inch swing, except
beds, so that we are prepared to furnish at
short notice anything desired.

FIFIELD TOOL CO.,

Lowell, Mass.

NEW HARRIS-CORLISS ENGINES

FOR SALE.

1-14x36 Cylinder Engine.....Left-hand
1-14x42 Cylinder Engine.....Left-hand
1-16x36 Cylinder Engine.....Left-hand
1-16x42 Cylinder Engine.....Left-hand
1-16x42 Cylinder Engine.....Right-hand
1-20x42 Cylinder Engine.....Left-hand
1-20x48 Cylinder Engine.....Left-hand
1-22x48 Cylinder Engine.....Left-hand
1-24x48 Cylinder Engine.....Left-hand
1-26x60 Cylinder Engine.....Left-hand

ASSIGNERS:

Wm. A. Harris Steam Engine Co.

PROVIDENCE, R. I.

MACHINERY FOR SALE.

Engines, Boilers, Pumps, Belting, Shaft-
ing, Pulleys and Hangers, Hand Pumps
and Shears, Emery-wheels, Blowers and Ex-
haust Fans, Steam Radiators, Drill Presses
(hand and power), Engine Lathes (foot or
power), Wood Lathes, Boring Machines.
We want to buy machinery of all kinds.
ENTERPRISE MACHINE WORKS,
412 West Liberty Street, Cincinnati, Ohio.

MACHINERY FOR SALE.

Engines, Boilers, Pumps, Shafting, Pulleys,
Hangers, Lucop Mills, Mixers, Pans, Disinte-
grators, Rock Crushers, Steam Elevators, Leather
and Rubber Belting Scales, Steam Fire Engines,
50 barrel Copper Brewer's Kettle and Fixtures,
Iron Tramway Cars and Turntable, Iron Tanks,
Canvas Covers, Wire, Hemp and Manila Rope,
Anchors, Chain, Blocks, etc. Highest price paid
for Scrap Iron, Metals, Old Rubber, etc.

N. B. WOOLFORD, 916 S. Broadway, Baltimore, Md.

FOR SALE.

Punches and Shears.

One 41-in. Geared Shear, with engine, and one
8x12 Erie Engine, second-hand. Also a number of
Punch and Shearing Machines, Small Rolls, etc.
Write for prices. Address

WAIS & ROOS PUNCH AND SHEAR CO.

Cincinnati, Ohio.

ROBT. S. ARMSTRONG & BRO.

Dealers in all kinds of

Old Iron and Metals.

also SECOND HAND MACHINERY.

Atlanta, Ga.

Machinery

FOR SALE

CHEAP FOR CASH.

HOISTING Engines, Air Compressors,
Rock Drills, Rock Crushers, Dump
Cars, Channelling Machines, Steam
Pumps, Steam Shovels, Light Locomo-
tives, etc., all in good condition.

WILLIS SHAW,

506 N. Y. Life Building, CHICAGO.

FOR SALE.

One pair New Stern Wheel
Marine Poppett Valve Engines.

Diameter of cylinders 8 in x 42 in. stroke. with
link motion. Steel crank shaft 4 in. diameter,
14 feet, C to C. Crank pins, wrought cranks and
three wheel centres, 42 in. diameter, for thirteen
wooden arms. Substantially built. Drawings
sent on application.

J. S. SCHOFIELD'S SONS & CO.

MACON, GA.

CORLISS

And other Automatic
Engines, also Automatic
High-speed Electric Light
Engines, Slide-valve En-
gines, Boilers, Pumps.
Send for catalogue.

GEO. M. CLAPP, 74 Cortlandt St., New York.

BARGAINS IN NEW AND SECOND-HAND MACHINERY

Large stock of Corliss, Automatic and Slide
Valve Engines up to 1000 horse-power. Also
large stock of Boilers, Pumps, Feed Water Heat-
ers, Shapers, Drill Presses, Milling Machines and
Steam Hammers. Air Compressors and Wood-
working Machinery. Also large stock of Elec-
tric Dynamos up to 600 light, and Motors of all
sizes. Machinery bought, exchanged or sold on
commission. Let me know your wants. FRANK
TOOMEY, 131 N. Third St., Philadelphia, Pa.
Warehouses, 139 Canal and 980 Beach streets.

ROLLING MILL

With Blooming, Billet and Rail Mills.

STEEL WORKS with Bessemer and
Open Hearth Furnaces

FOR SALE.

THOS. CARLIN'S SONS,

190 Laccook St., Allegheny, Pa.

If You Want to Buy

TOOLS,

MACHINERY,

MILL SUPPLIES,

Anything used by a manufacturer, builder,

miner or contractor,

Notify the MANUFACTURERS' RECORD,

Baltimore, Md., and your wants will be placed
before hundreds of manufacturers who will send
you their catalogues and prices. It costs you
nothing.

GEO. C. BALL & CO., ATLANTA, GA.
BIRMINGHAM, ALA.

Iron and Steel.

FOR SALE.—A fine 36-in. gauge LOCOMO-
TIVE in South cheap. Lots of all kinds Relay
Rails, Scrap Iron and Steel.

FOR SALE.

35 TON LOCOMOTIVE.
25 TON LOCOMOTIVE.

Also one small NARROW GAUGE LOCOMO-
TIVE, in good condition, for re-use. For par-
ticulars address

JOS. JOSEPH & BROS., CINCINNATI, O.

LOCOMOTIVES

FOR SALE AND TO RENT.

One new ten-wheel freight engine, six-wheel
connected, built by Cooke Locomotive Works,
weight 52 tons.

To rent—Two Baldwin passenger engines. All
standard gauge and in first-class condition.

Address

CHATTANOOGA SOUTHERN R. R. CO.

Chattanooga, Tenn.

FOR SALE.

EIGHT MILES 30-lb. STEEL RAILS, as good
as new.

One Standard Narrow Gauge Locomotive.

" " " " Passenger Coach.

" " " " Combination Coach

Two " " " " Box Cars.

" " " " Flat Cars.

SABEL BROS., JACKSONVILLE, FLA.

Address

CHATTANOOGA SOUTHERN R. R. CO.

Chattanooga, Tenn.

Address

CHATTANOOGA SOUTHERN R. R. CO.

Chattanooga, Tenn.

Address

CHATTANOOGA SOUTHERN R. R. CO.

Chattanooga, Tenn.

Address

CHATTANOOGA SOUTHERN R. R. CO.

Chattanooga, Tenn.

Address

CHATTANOOGA SOUTHERN R. R. CO.

Chattanooga, Tenn.

Address

CHATTANOOGA SOUTHERN R. R. CO.

Chattanooga, Tenn.

Address

CHATTANOOGA SOUTHERN R. R. CO.

Chattanooga, Tenn.

Address

CHATTANOOGA SOUTHERN R. R. CO.

Chattanooga, Tenn.

Address

CHATTANOOGA SOUTHERN R. R. CO.

Chattanooga, Tenn.

Address

CHATTANOOGA SOUTHERN R. R. CO.

Chattanooga, Tenn.

SECOND-HAND RAILS.

If you have any old rails—either in good condition to relay, or if only fit to be used as scrap—advise us; we buy both kinds.

ROB NSON & ORR,
419 Wood Street, PITTSBURG, PA.

RELAYING RAILS.**For Sale Cheap.**

3 36-in. Gauge Locomotives.
48 36-in. " Freight Cars.
3 36-in. " Passenger Coaches.
DAVIS, KELLY & CO., Louisville, Ky.

**WM MINNIGERODE, Lynchburg Va.
Railway Equipment.**

I have for sale some good Relaying Rails, and several Standard and Narrow Gauge Locomotives. Let me know when you have supplies of this kind that you wish to sell.

FOR SALE.

Relaying Steel T Rails of all weights and in lots to suit, also Logging Locomotives and Logging Cars of all types and gauges. Before purchasing, write us for Catalogue of Railway Equipments, also for quotations on rails. We buy complete logging railroads when through logging.

M. MITSCHUN & CO.

806 Chamber of Commerce, Detroit, Mich.

**FOR SALE RELAYERS.
Light and Heavy**

DALLETT & CO.

301 Walnut Place, PHILADELPHIA.

Buyers of Scrap Iron and Steel. Sales agents for Pioneer Mining & Mfg. Co. of Alabama, Bar Iron. High grade North Carolina Ores.

Relaying Rails.

3000 tons 56-lb. Steel Relaying T Rails with Splices, convenient for delivery Virginia, West Virginia, the Carolinas and all Southeastern coast points.

1400 tons 56-lb. Steel Relaying T Rails with Splices, been used but two years, convenient for delivery Alabama, Georgia, Louisiana and interior Southern Points. All above in first class condition. Forty miles 25-lb. Steel Relaying Rails with angle plates, for Southern points.

ISAAC JOSEPH IRON CO.,
CINCINNATI, OHIO.

Relaying RAILS.—We offer for sale:

50 tons 35-lb. relaying Steel Rails and plates.
350 tons 30 lb. relaying Steel Rails and plates.
125 tons 25 lb. relaying Steel Rails and plates.
60 tons 25-lb. relaying Iron Rail's and plates.
160 tons 20-lb. relaying Steel Rails and plates.
50 tons 16-lb. relaying Iron Rails and plates.
15 tons 12-lb. relaying Iron Rails and plates.

Seven Narrow Gauge Locomotives; one Standard Gauge Mine Locomotive, weighing about six tons; one Standard Gauge Locomotive, weighing about thirty tons; ten Standard Gauge Box Cars; ten Standard Gauge Flat Cars.

Write us for prices and terms.

SMITH & KILBY CO., Anniston, Ala.

Relaying Rails.

Second-hand equipment and light new Steel Rails
L. K. HIRSCH, 549 Rookery Bldg., Chicago.

**Narrow Gauge Railway Equipment
FOR SALE.**

Forty-four miles of 25-lb. Steel Relaying Rails; also Locomotives, Cars and Coaches, by

M. SABEL & SONS,
MONTGOMERY, ALA.

RAILS and EQUIPMENT.

600 tons 45-lb. STEEL T RELAYING RAILS, with angle bars.
One Baldwin 16x24 MOGUL LOCOMOTIVE.
One Baldwin 14x22 4-WHEEL " "
One 50-ft and one 45-ft. PASSENGER COACH, Atlanta inspection. For sale by
SOUTHERN IRON & EQUIPMENT CO., Atlanta, Ga.

**NEW and RELAYING TEE RAILS
FOR SALE.**

About 135 tons new 35-lb. Steel Tee Rails, N. Y. delivery. About 250 tons new 40-lb. Steel Tee Rails and Angle Joints, Pittsburgh delivery. About two miles relaying 20-lb. Steel Tee Rails, Northern N. Y. delivery. About 35 tons of relaying 25-lb. Steel Tee Rails, South Carolina delivery.

THE STEEL RAIL SUPPLY CO.

100 Broadway, NEW YORK, N. Y.

RAILS.

300 Tons 25-lb. Steel Relaying Rails in Michigan.
150 Tons 56s, New York.
500 Tons 65s, Buffalo.
300 Tons 60s, Buffalo.

R. L. GINSBURG & SONS,

Detroit, Mich., Buffalo, N. Y.

RAILROAD EQUIPMENT for Sale

Relaying Rail and Splices, Locomotives, Coaches and Freight Cars.

HICKMAN, WILLIAMS & CO.
LOUISVILLE, KY.

Railroad Equipment Headquarters.

J. H. TAYLOR & CO.

801 Wainwright Building, ST. LOUIS, MO.

We have on hand for sale, New and Second-hand Locomotives, Passenger Coaches, Furniture, Stock, Box and Flat Cars, both Standard and Narrow Gauge, at very low figures. Send your requirements and we will quote price.

FOR SALE.**RAILS and ROLLING STOCK**

2000 tons 30, 36 and 40-lb. Steel Relaying T Rails.
10 BOX } Coal Cars 40,000 pounds capacity;
10 FLAT } Standard Gauge; good condition.
10 COAL }
Also lot Narrow Gauge Engines and Cars.
Call on or write

BLOCK-POLLAK IRON CO.

CINCINNATI, OHIO, or CHICAGO, ILL.

We are always in the market to buy Relaying Rails and Scrap Iron of all kinds for cash.

STERLING EMERY WHEEL

MFG. CO.

TIFFIN, OHIO.

CORRESPONDENCE SOLICITED.

Norton Emery Wheel Co.
Manufacturers of
THE CELEBRATED
Norton Emery and Corundum Wheels
T. K. CAREY & BRO.
Southern Agents,
BALTIMORE, MD.
WORCESTER, MASS.

LOG CARTS

We build them RIGHT.
We build them CHEAP.

**SOUTHERN LOG CART
& SUPPLY CO.**

Down in
MOBILE, ALA.

CABLE "HEALD."

P.O. BOX 202.

PRICE & HEALD,

Wholesale Dealers and Manufacturers

HARDWOODS and POPLAR

Saved on the Log, for Domestic or Foreign Trade.

Yards, Locust Point.

Office, Manufacturers' Record Building.

Branches: Grafton, W. Va., Bristol Tenn.

BALTIMORE, MD.

**CREOSOTED PILES, LUMBER
and CROSSTIES**

Treated with Dead Oil of Coal Tar.

PINOLINE WOOD PRESERVATIVE.

Highest Antiseptic Qualities. Insoluble in water.

PINOLINE ROOFING PAINT.

Durable, Elastic and Cheap.

FOR PRICES WRITE

Fernandina Oil & Creosote Works, Fernandina, Fla.

**BUYERS of Machinery, Tools, Mining and
Manufacturing Supplies**

can find anything they need by referring to the advertising pages of the
MANUFACTURERS' RECORD.

**SELLERS of anything that is required by
Machinists, Foundrymen, Iron**

Manufacturers, Coal and Iron Ore Miners, Textile Manufacturers, Woodworkers and Artisans of every class can reach more customers through the **MANUFACTURERS' RECORD** than in any other way.

BALTIMORE, MD.

The BETHLEHEM IRON CO.

SOUTH BETHLEHEM, PA.

**STEEL RAILS, BILLETS and
MUCK BAR,****STEEL FORGINGS,**

CRANKS,

HOLLOW SHAFTING, ROLLS, GUNS and ARMOR.

Rough, Machined or Finished, Fluid Compressed, Hydraulic Forged.

NEW YORK OFFICE, 100 Broadway.

PHILADELPHIA OFFICE, 421 Chestnut Street.

CHICAGO, ILL., Marquette Building.

SOUTHERN LUMBER DIRECTORY.

A List of Leading Lumber Dealers and Manufacturers in the South.

This list of representative Southern lumber merchants and manufacturers is published for the benefit of those who desire to reach responsible houses in this branch of business in the South. Readers of the MANUFACTURERS' RECORD who have occasion to correspond with any of the firms mentioned below will confer a favor by mentioning this paper.

YELLOW PINE.
Manufacturers.

Villa Rica Lumber Co., Anniston, Ala.
Kedzie & Simonson, Birmingham, Ala.
Hawkins & Smith, Birmingham, Ala.
Marbury Lumber Co., Bozeman, Ala.
Marbury & Jones, Bozeman, Ala.
Peters Lumber Co., Brewton, Ala.
W. T. Smith Lumber Co., Chapman, Ala.
Lafayette Cooke, Cook's Springs, Ala.
Dunham Lumber Co., Dunham, Ala.
W. J. Williams & Son, Eustis, Ala.
E. Walker, Flomaton, Ala.
Gadsden Lumber Co., Gadsden, Ala.
Tuscaloosa Lumber Co., Hull, Ala.
J. B. Adams, Longview, Ala.
S. B. Allen & Co., Montgomery, Ala.
Moore & Kirkland, Montgomery, Ala.
Wm. C. Holt, Montgomery, Ala.
Pansy Lumber Co., Pansy, Ala.
T. H. Boxley, Sterrett, Ala.
J. A. Blassingame, Verbena, Ala.
J. C. Jackson & Sons, Wilsonville, Ala.
Martin Lumber Co., Bollinger, Ark.
Long-Bell Lumber Co., Buckner, Ark.
T. M. Turple, Caldwell, Ark.
Cotton Belt Mill, Cotton Belt, Ark.
Ferdys Lumber Co., Fordyce, Ark.
Fort Smith Lumber Co., Fort Smith, Ark.
Red River Lumber Co., Lewisville, Ark.
North Arkansas Lumber Co., Portia, Ark.
Bluff City Lumber Co., Pine Bluff, Ark.
Kansas City & Southern Lumber Co., Sedgewick, Ark.
J. I. Porter Lumber Co., Stuttgart, Ark.
A. J. Nelmever Lumber Co., Waldo, Ark.
Simpson & Co., Bagdad, Fla.
Carey & Ollinger, Bagdad, Fla.
Sanford Lumber Co., Caryville, Fla.
Skinner & McDavid, Escambia, Fla.
J. P. Little, Sumner, Fla.
Chipola Lumber Co., Marianna, Fla.
Southern States Land & Lumber Co., Muscogee, Fla.
Armstrong & White, Neoga, Fla.
McMillan Mill Co., Pine Barren, Fla.
Georgia & Florida Investment Co., Tallahassee, Fla.
J. J. Hanesley, Americus, Ga.
Perkins Mfg. Co., Augusta, Ga.
Pine River Lumber & Export Co., Bainbridge, Ga.
Brown & Garber, Brunswick, Ga.
Donaldson Lumber Co., Donaldsonville, Ga.
T. W. Garbutt & Co., Garbutt, Ga.
James K. Clark Lumber Co., Gertrude, Ga.
Bewick Lumber Co., Hazelhurst, Ga.
Mineola Lumber Co., Mineola, Ga.
O'Neill Manufacturing Co., Rome, Ga.
Hilton & Dodge Lumber Co., St. Simon's Mills, Ga.
Julius Levin & Co., Alexandria, La.
Bradley-Ramsey Lumber Co., Lake Charles, La.
Gulf Lumber Co., New Orleans, La.
W. W. Carre, New Orleans, La.
McEwen & Murray, Limited, New Orleans, La.
A. Wilbert's Sons Lumber & Shingle Co., Plaquemine, La.
Hearn & Co., Robertsville, La.
Victoria Lumber Co., Victoria, La.
Keystone Lumber & Imp. Co., Bogie Chitto, Miss.
J. S. Blackburn, Ellenville Depot, Miss.
W. L. Rankin & Bro., Fayetteville, N. C.
C. C. Wade & Son, West End, N. C.
Bridges & McKirthan Lumber Co., Wilmington, N. C.
D. W. Alderman, Alcolu, S. C.
E. D. Mins, Edgefield, S. C.
Hallard Lumber Co., Greeleyville, S. C.
Beliance Lumber Co., Beaumont, Texas.
Lutcher & Moore Lumber Co., Orange, Texas.
D. R. Wingate Lumber Co., Orange, Texas.
Southern Pine Lumber Co., Texarkana, Texas.
Warren Lumber Co., Warren, Texas.
Wm. Kirk, Parkersburg, Va.
Cairo Mfg. & Lumber Co., Petroleum, W. Va.

NORTH CAROLINA PINE.
Manufacturers.

Samuel Eccles, Jr., Baltimore, Md.
Geo. F. Sloan & Bro., Baltimore, Md.
Byland & Brooks Lumber Co., Baltimore, Md.
R. T. Waters & Son, Baltimore, Md.
Aberdeen Lumber Co., Aberdeen, N. C.
Page Lumber Co., Aberdeen, N. C.
C. W. Mobley & Co., Berry, N. C.
Gay Manufacturing Co., Bosley, N. C.
Albemar Lumber Co., Elizabeth, N. C.
W. L. Rankin & Bro., Fayetteville, N. C.
Frank Hitch, Hamilton, N. C.
Butlers Lumber Co., Hub, N. C.
Hansmond Lumber Co., Montrose Landing, N. C.
W. B. Blader & Bro., New Bern, N. C.
Stinson Lumber Co., New Bern, N. C.
John L. Roper Lumber Co., Roper, N. C.
S. R. Fowie & Son, Washington, N. C.

S. R. Fowie & Son, Wilmington, N. C.
Camp Manufacturing Co., Winton, N. C.
W. T. Ferguson, Ferguson's Wharf, Va.
Cooper & Spottswood, Jarratts, Va.
Apex Lumber Co., Lynchburg, Va.
D. S. Jones, Newport News, Va.
Tunis Lumber Co., Norfolk, Va.
George G. Tyler, Norfolk, Va.
Cummer Co., Norfolk, Va.
H. M. Owen, Pungo, Va.
R. G. Dennis Lumber Co., Suffolk, Va.
Mitchell & Steele, Steelville, Va.
George E. Burt, Waverly, Va.

WHITE PINE.
Manufacturers.

J. R. Beatty & Co., Quinimont, W. Va.
Cumberland Lumber Co., Ronceverte, W. Va.
A. E. Huddleston, White Sulphur Springs, W. Va.
Caldwell Land & Lumber Co., Philadelphia, Pa.

CYPRESS.

Manufacturers.

Mohr-Weil Lumber Co., Montgomery, Ala.
Cypress Lumber Co., Sherrill, Ark.
Tallapoosa Lumber Co., Sistrunk, Ala.
T. M. McMillan, Stockton, Ala.
J. P. Little, Sumner, Fla.
Cypress Lumber Co., Apalachicola, Fla.
Wilson Cypress Co., Palatka, Fla.
Hillsborough Cypress Co., Harney, Fla.
St. Mark's Lumber Co., Tallahassee, Fla.
Atlanta Cypress Lumber Co., Atlanta, Ga.
Bibb Land & Lumber Co., Cox, Ga.
N. B. Trellis & Co., Patterson, La.
Julius Levin, Alexandria, La.
Burton Lumber Co., Berwick, La.
Louisiana Cypress Lumber Co., Harvey, La.
Lutcher & Moore Cypress Lumber Co., Litcher, La.
Iberia Lumber Co., New Iberia, La.
McEwen & Murray, Limited, New Orleans, La.
Callahan & Lewis Mfg. Co., Patterson, La.
J. H. Leavenworth, Greenville, Miss.
E. G. Goddard Lumber Co., Logtown, Miss.
R. F. Learned, Natchez, Miss.
Wm. Carphay, Vicksburg, Miss.
W. H. Richardson, Eagle Rock, N. C.
W. D. Hickman, Granite, N. C.
W. B. Ellis, New Bern, N. C.
Hilton & Dodge Lumber Co., St. Simon's Mills, Ga.
Hansen & Smith, Wilmington, N. C.

CYPRESS SHINGLES.
Manufacturers.

John S. Mash & Sons, Luverne, Ala.
Mobile Shingle & Manufacturing Co., Mobile, Ala.
J. D. Cameron & Son, Mobile, Ala.
Stewart & Butt, Mobile, Ala.
Wm. C. Holt, Montgomery, Ala.
The Cypress Lumber Co., Apalachicola, Fla.
Highland Land & Lumber Co., Humphrey, Ark.
Niemeyer & Darragh Shingle Co., Little Rock, Ark.
Carrey & Ollinger, Bagdad, Fla.
Bohemia Shingle Mill Co., Bohemia, Fla.
Wm. A. McCann, Jacksonville, Fla.
Cherokee Lumber Co., Atlanta, Ga.
T. E. Collier, Cordele, Ga.
J. L. Maxwell, Cornelia, Ga.
J. S. Owens, Hawkinsville, Ga.
H. H. Tift, Tifton, Ga.
Julius Levin & Co., Alexandria, La.
B. T. Durham, Lens, La.
Lutcher & Moore Cypress Lumber Co., Litcher, La.
McEwen & Murray, Limited, New Orleans, La.
Sutt & Co., Ahsaki, N. C.
John L. Roper Lumber Co., Norfolk, Va.
L. Miller Shingle Co., Orange, Texas.
Hilton & Dodge Lumber Co., St. Simon's Mills, Ga.
Moore & Swineford, Orange, Texas.

HARDWOOD.
Manufacturers.

Scatcherd Lumber Co., Decatur, Ala.
H. C. Higman & Co., Decatur, Ala.
G. W. Tarwater, Gadsden, Ala.
Sample Lumber Co., Hollins, Ala.
W. O. Knowlton, Paint Rock, Ala.
Lathrop-Hatton Lumber Co., Riverside, Ala.
J. N. Hutchinson, Salem, Ala.
Guthrie Bros., Sulligent, Ala.
Sullivan Lumber Co., Wilson, Ala.
Deba Lumber & Planting Co., Arkansas City, Ark.
G. W. Decker, Black Rock, Ark.
Faist & Co., Bryant, Ark.
Southern Land & Lumber Co., Dry Run, Ark.
J. M. Brittan, England, Ark.
Dickson, Cross & Co., Fairmount, Ark.
Geo. H. Munroe, Receiver, St. Francis, Ark.
W. S. Elder, Stonewall, Ark.
S. C. Dowell, Walnut Ridge, Ark.
James Chapin & Son, Cloverport, Ky.
W. L. Pence, Frankfort, Ky.
E. A. Smith, Glendale, Ky.
J. W. Boyd & Co., King's Mountain, Ky.
Maston Lumber Co., Livingston, Ky.
Kentucky Saw Mill Co., Louisville, Ky.
A. H. Rennebaum, Middlesborough, Ky.
J. B. Doney & Co., Amory, Miss.
Ashley & Clement, Hernando, Miss.
B. Crisler, Meridian, Miss.
C. W. Rich, Richburg, Miss.
J. E. P. Boxley, Robinsonville, Miss.
John B. Wheeler & Co., Cooter, Mo.
Hannibal Saw Mill Co., Hannibal, Mo.
Hunter & Dawson, La Grange, Mo.
The Dickson-Mason Lumber Co., Asheville, N. C.

D. C. Way Lumber Co., Haslin, N. C.
J. R. Fowie & Son, Washington, N. C.
Wm. H. Cole, Waynesville, N. C.
Cumberland Manufacturing Co., Harriman, Tenn.
Moore & McFarren, Memphis, Tenn.
Nashville Lumber Co., Nashville, Tenn.
N. L. Johnson, Pennington Gap, Va.
Mitchell & Steele, Steelville, Va.
Condon-Lane Boom & Lumber Co., Brets, W. Va.
James Lumber Co., Charleston, W. Va.
H. S. White, Matewan, W. Va.
J. U. Graham, New Richmond, W. Va.
John W. Graham, Central City, W. Va.
Nicola Bros., Nicolette, W. Va.
J. C. Williamson, Williamson, W. Va.
Beaver Creek Lumber Co., Philadelphia, Pa.
Caldwell Land & Lumber Co., Philadelphia, Pa.

Wholesale HARDWOOD Dealers.

W. H. Treworgy, Boston, Mass.
Smith & Blanchard, Boston, Mass.
James A. Wood, Boston, Mass.
Parker & Page, Boston, Mass.
Weston & Bigelow, Boston, Mass.
Palmer, Parker & Co., Boston, Mass.
Litchfield Bros., Boston, Mass.
E. J. Hammond & Co., Boston, Mass.
W. S. Daniel, Boston, Mass.
John M. Woods & Co., Boston, Mass.
Howard Watson, St. Louis, Mo.
Berthold & Jennings, St. Louis, Mo.
Boyden & Wyman Lumber Co., St. Louis, Mo.
Smith & Little, St. Louis, Mo.
Chas. F. Luehrmann Hardwood Lumber Co., St. Louis, Mo.
Bohn-Verdin Lumber Co., St. Louis, Mo.
Drabe Hardwood Lumber Co., St. Louis, Mo.
Smith & Meier Lumber Co., St. Louis, Mo.
Abeles & Tansig, St. Louis, Mo.
Steele & Hibbard, St. Louis, Mo.
James A. Harnett & Co., St. Louis, Mo.
Wyeth Lumber Co., St. Louis, Mo.
Nat S. Rogers & Co., Asheville, N. C.

HARDWOOD.

Wholesale Dealers and Exporters.

Price & Heald, Baltimore, Md.
Price & Co., Baltimore, Md.
Samuel Eccles, Jr., Baltimore, Md.
E. M. Lazarns & Co., Baltimore, Md.
W. W. Welch, Baltimore, Md.
Wm. S. Cross, Baltimore, Md.
J. van Hall, Baltimore, Md.
A. I. Lyon, Baltimore, Md.

STAVES AND HEADING.
Manufacturers.

Stave & Hoop Co., Alexander City, Ala.
Decatur Stave Works, Decatur, Ala.
J. B. Adams, Longview, Ala.
H. C. Stiles & Co., Stiles, Ala.
P. V. De Land, Black Rock, Ark.
Beck & Ellis Bros., Cherry Valley, Ark.
Dahforth & McLin, Greenway, Ark.
Springfield Lumber & Cooper's Co., Jonesboro, Ark.
Stetcher Cooperage Works, Jonesboro, Ark.
Jonesboro Stave Co., Jonesboro, Ark.
J. H. Hamlen & Son, Little Rock, Ark.
Little Rock Cooperage Co., Little Rock, Ark.
Wilson Bros., Piggott, Ark.
Tampa Lumber Co., Tampa, Fla.
J. N. Bray, Cecil, Ga.
Kentucky Union Lumber Co., Clay City, Ky.
Dewey Stave Co., New Orleans, La.
George D. Eike, New Orleans, La.

O'NEILL MFG. CO. Yellow Pine Lumber

ROME, GA.

Wholesale Dealers and Manufacturers of

Sash, Doors and Blinds and General Builders' Supplies.

PRICE & COMPANY, BALTIMORE, MD. CLARKSBURG, W. VA.
Manufacturers of Oak, Etc., For Foreign and Domestic Markets.
Agents for Pardee & Curtin Lumber Co.'s
BAND SAWED POPLAR, ASH, WALNUT, CHERRY, ETC.

W. S. LEWIS Manufacturer of all kinds of
KILN-DRIED AND JOINTED STAVES A SPECIALTY
Orders filled on short notice. Kanawha County, Charleston, W. Va.

SALMEN BRICK & LUMBER CO., Ltd., Slidell, La.
Manufacturers Cypress and Yellow Pine Lumber. Mixed Car Loads a Specialty...

VENEERS AND HARDWOOD LUMBER.

Importers of
Mahogany and Foreign Woods,
Manufacturers of
DOMESTIC & FOREIGN
Hardwood Lumber and Veneers,
Cigar Box Lumber.

The E. D. Albro Co.
VENEER CUTTING
and BAND SAW MILLS.

CINCINNATI, O.

EASTERN BRANCH, Cor. 6th and Lewis Sts., E. R., New York

Found in the Mills

MORE "LIGHTNING" FLOORERS

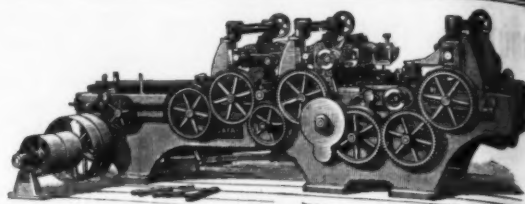
— Than any other make.

DROP US A LINE AND WE WILL TELL YOU WHY.

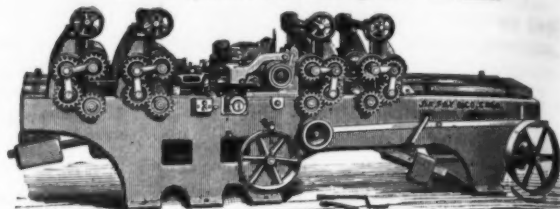
J. A. FAY & CO.

270-290 West Front Street,

CINCINNATI, O.



No. 9.
Extra Heavy Six Roll Triple Cylinder "Lightning" Floorer.
With Automatic Cylinder and Roll Raising Device and Lock
Attachment operated from feeding end of machine.



No. 10.
New Patent Eight Roll Double Cylinder "Lightning" Floorer.
Six-Sided Steel Forged Cylinders—Three-Inch Journals.

"NO PLACE LIKE HOLMES"

FOR

WOOD WORKING MACHINERY

*'Mid Planers and Matchers,
Where'er we may roam,
For Re-Saws and Edgers,
There's none like E. B. Holmes.*

E. & B. HOLMES MACHINERY CO.

59 Chicago Street,

BUFFALO, N.Y.

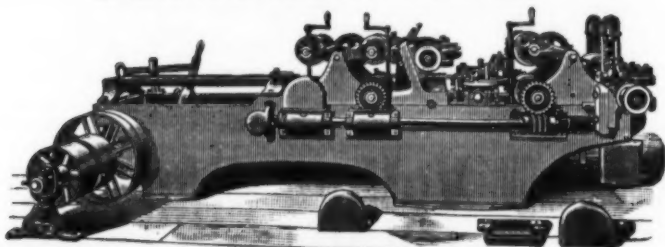
ALSO MANUFACTURERS OF BARREL AND STAVE MACHINERY.

GLEN COVE MACHINE CO., LIMITED.

MANUFACTURERS OF IMPROVED

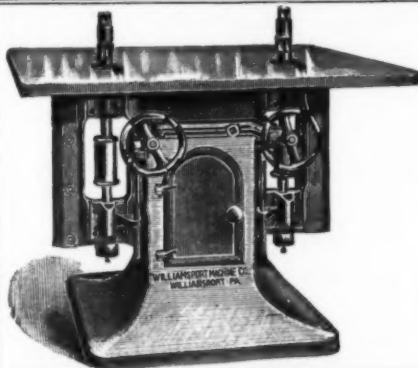
PLANING MILL MACHINERY

FLOORING, MOULDING, SURFACING,
SIZING AND TIMBER MACHINES.



SCREW FEED PLANING AND MATCHING MACHINE.

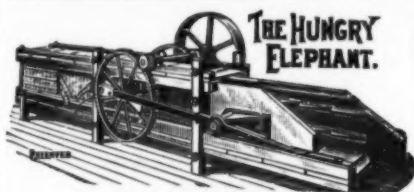
Office, No. 50 BROADWAY, New York City.
Works, 24 to 34 CLAY ST., BROOKLYN, N. Y.



Can't Say Much
IN THIS SPACE.

We make a full line of woodworking machines,
which our catalogue tells all about.
Want a copy?
Who are you?
That's all we want to know.

Williamsport Machine Co.
WILLIAMSPORT, PA.



THE HUNGRY
ELEPHANT.

Baling Press.

SAW MILL MACHINERY,
PORTABLE GRINDING MILLS

Turbine Water Wheels and Mill Machinery.

DeLOACH MILL MANUFACTURING CO., Atlanta, Ga.

E. C. ATKINS & CO., Indianapolis, Ind.

MANUFACTURERS OF

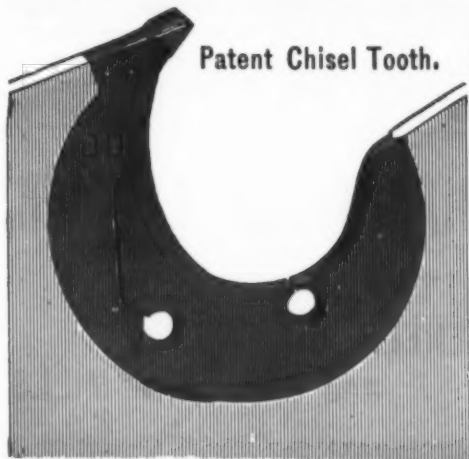
Circular, Band, Cross-Cut & Hand Saws.

SILVER STEEL BAND SAWS.

E. C. ATKINS & CO. INDIANAPOLIS, IND.

Atkins'
Silver Steel
Band Saws.

TRADE
SILVER STEEL
MARK



Patent Chisel Tooth.

THE ATKINS BANDS TAKE THE LEAD.

CYLINDER SAWS RESTEELED AND WORK GUARANTEED.

TEMPERED BY NATURAL GAS.

Write for Sawyers' Hand Book Saws and Saw Tools.

Sweepstakes Planer, Matcher & Moulder

OVER 1500 SOLD.

It is the best four-roll combined Planer and Matcher on the market today, and is highly recommended by all who use it. Get in line and have one. We will be pleased to make you quotations. Send for our 128 page catalogue, illustrating Up To-Date-Machinery.

Mention Manufacturers' Record.

ROWLEY & HERMANCO CO., Williamsport, Pa.



PATENT LATHES

For turning Axe, Adze, Pick, Sledge, Hammer, Hatchet, Auger, File, Knife, Chisel, Fork, Hoe, Rake, Broom and Mop HANDLES. Pike Poles, Whiffletrees, Yokes, Spokes, Forch Spindles, Table Legs, Tent Stakes, Ball Bats, Mallets, etc.

Boring Machines, Sanders, Chucking Machines, Shapers, Special Machinery.

The Ober Lathe Co.
Chagrin Falls, Ohio, U. S. A.

SAWING MACHINERY

Double Cut-off Saws,

Scroll Saws, Saw Benches, Combination Rip and Cut-Off Saw Tables, Tilting Table Saw Benches, Steel Saw Arbors.

Patent Saw Gauges, etc.

Address H. L. BEACH,

Montrose Pa.



FOR THE BEST
MACHINERY
For Shingles, Heading and Staves,
VENEER CUTTERS
AND
IMPROVED
Gauge Lathes
FOR
TURNING
HANDLES, ETC.



Trevor Mfg. Co. { Successors to } LEBROOK
Trevor & Co. { E. T.

J. C. DONNELLY,

Manufacturer of the

... LATEST IMPROVED ...

MATCH MACHINERY

1209 Buttonwood Street,
PHILADELPHIA.



SAW MILL AND ENGINES

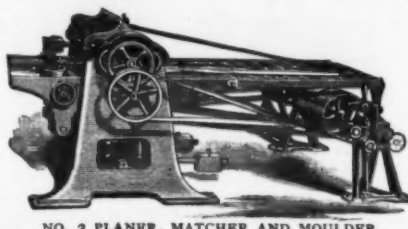
A wonderful improvement in Friction Feeds and Gig-Back, Back motion of Carriage 3 times as fast as any other in the market. Friction Clutch Feed, causing all the feed gearing to stand still while backing; great saving in power and wear. Send 4 cents in stamps for large Catalogue and prices. Also Spring Harrows, Hay Rakes, Cultivators, Corn Planters, Shellers, etc. Mention this paper. HENCH & DROMGOLD, Mfgs., York, Pa.

CORDESMAN, MEYER & Co.

27, 29, 31 Central Avenue, CINCINNATI, OHIO.

FINE GRADES OF LATEST

WOOD
WORKING
Machinery



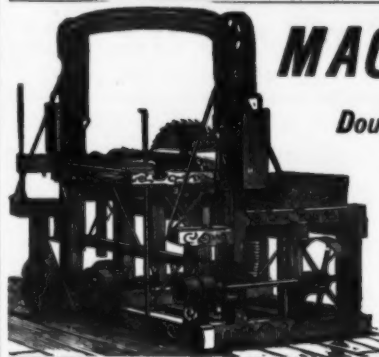
OF EVERY DESCRIPTION.

NO. 2 PLANER, MATCHER AND MOULDER.

For...

Planing Mills,
Furniture and
Chair Factories,
Carriage, Wagon,
Agricultural
Works, etc.

Write for Circulars and Prices.



MACHINERY For SAW and PLANING MILLS.

Double Edgers and Board Trimmers

Expressly for Southern Mills.

A FULL LINE OF

SHINGLE MACHINERY.

Best on earth. Send for descriptions. Address

United States Machine Co.
WILLIAMSPORT, PA.

Established 1837.

Incorporated 1892

THE L. & I. J. WHITE CO.

MANUFACTURERS OF

MACHINE KNIVES

OF EVERY DESCRIPTION.

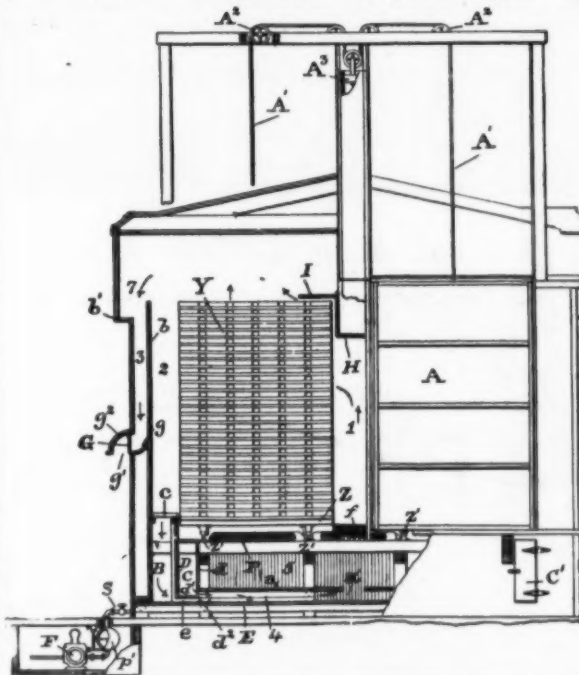
Fully
Warranted.

BUFFALO, N. Y.

Do You Want to DRY...

Your LUMBER at the least expense and with the least attention?

THEN USE THE

EMERSON PATENTED
Automatic Compression Moist Air System of Drying.

WE GIVE an unequalled guarantee as to quality and quantity of material dried and economy in the use of steam.

It Costs Less Money

Requires Less Building

Does More Perfect Work

Than any known system of drying.

Our catalogue illustrates specimens of wood dried by our Moist Air Process, with views and arrangements of the leading plants in the United States that are using the system, and will interest any one.

OUR AUTOMATIC COMPRESSION SYSTEM is adapted to the drying of all forest products, and is meeting with great favor with the Furniture Manufacturers for drying oak.

OUR STEEL ROLLER BEARING TRUCKS are made for heavy use, and their perfect bearings make them run light. If you are interested in drying lumber, or any other material, write us.

Suit for infringement has been filed in the U. S. Court for the Eastern district of North Carolina, which will be prosecuted to the fullest extent of the law.

THE EMERSON COMPANY,

809 Fidelity Building,

BALTIMORE, MD.

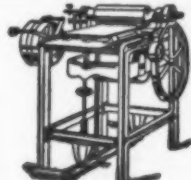
A. WALKER, President.

M. B. FITZGERALD, Secretary.

S. H. SINCLAIR CO.

Manufacturers of

LAUNDRY MACHINERY.



"THE SINCLAIR" IRONER

Is the First and the Best.

8-10 S. Canal St.
CHICAGO.

Write for prices and catalogue.

FIRE-PROOF WATER-PROOF WIND-PROOF GUTTA PERCHA ROOFING!

The Great Roofing for the South. Send for Southern Manufacturers' References. For Steep or Flat Roofs, Factories, Mills, Lumber Sheds, etc. Send for Catalogue, Testimonials, Samples, etc.

Empire Paint & Roofing Co., 111 N. FOURTH STREET, Philadelphia, Pa.



DURABLE—EASILY APPLIED.

This roofing is manufactured from Trinidad natural asphalt materials, and will not dry up and become brittle under exposure to the weather as coal-tar roofings do. We shall be pleased to furnish a sample of this roofing which has been in use over the sulphuric acid tanks of the Bowker Fertilizer Co., of Elizabethport, N. J., for the past twelve years, and is still in good condition. Send for circular and price-list to

WARREN CHEMICAL & MFG. CO.
82 Fulton Street, New York, U. S. A.

Shingle Bands, Blow Piping Work, Etc.

N. O. ROOFING & METAL WORKS.

NEW ORLEANS, LA.

A Few
I's.

If we have ample facilities for turning out good work; if we give each order a good share of attention; if we assure you of satisfaction; if we fill your order promptly; if we do all this at satisfactory prices, don't we deserve your order? Will you try us and find out? Send us your plans. Ask us for Catalogue. Ask us anything.

GARA, MCGINLEY & CO., 23 S. 17th Street, Philadelphia.

Proprietors of ROANOKE ROOFING & METAL CORNICE CO. (Discontinued).
ARCHITECTURAL SHEET METAL WORKERS, CORNICES, etc., etc. ROANOKE, VA.



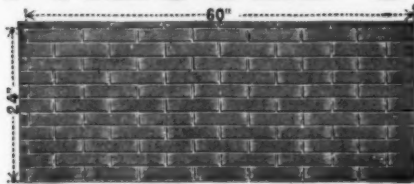
Expanded Metal Lath.

The BEST Fire-proof Lath made. Perfect key. Mortar cannot break off. No stretching. No shrinking. Easily applied. INVESTIGATE OUR SYSTEM OF FIRE-PROOFING. Write for pamphlet. Mention this paper.

SOUTHERN EXPANDED METAL CO.

Builders' Exchange, WASHINGTON, D. C.

PRESSED STEEL BRICK

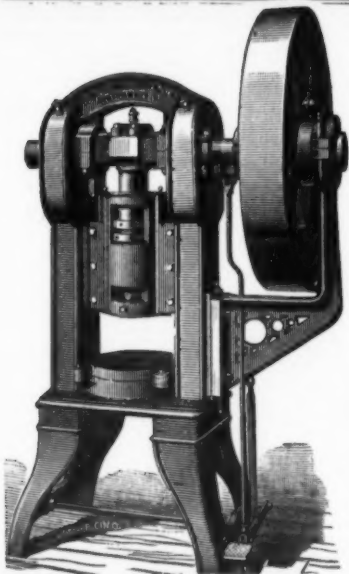


WILL RENEW AN OLD BUILDING
AT A VERY SMALL COST.

You should have our prices. Write us at once.

THE CANTON STEEL ROOFING COMPANY,
Canton, Ohio.

THE PHILADELPHIA STEEL ROOFING CO.
MANUFACTURERS OF
STEEL ROOFING AND CORRUGATED IRON.
514, 516 & 518, BEACH ST.
PHILADELPHIA PA.
SEND FOR CATALOGUE AND PRICES.



J. M. ROBINSON & CO.

225-229 W. 2nd St., CINCINNATI, OHIO

MANUFACTURES

Adjustable Power Punching

PRESSES,

Foot and Hand Presses,

Power Presses, large and small, for cutting and forming sheet metal. Foot and Power Squaring Shears, eight, ten and eleven feet lengths or less. Machinery and Dies for sheet metal workers. Foot and Power Curved Moulding Machines. New and Improved Cross-Lock Seamer. Plain, Round and Corrugated Conductor Pipe Machines; will produce eight to 10,000 feet in ten hours.

EAVE TROUGH MACHINES

With which has been produced 20,000 feet in ten hours.



RAW HIDE
WATER PROOF
PAPER.

RAW=HIDE

Is absolutely the Strongest
and Best Water-proof Paper
made for Roofing and Siding.

C. S. GARRETT & SON, Paper Makers,

12 and 14 Decatur Street,

PHILADELPHIA.

FOR MILLS,
FOUNDRIES,
AND
ALL BUILDINGS
REQUIRING A
THOROUGHLY
WATER, ACID AND
ALKALI-PROOF COVERING
USE
P. & B.
RUBEROID
ROOFING.

IMPERVIOUS TO COAL GAS
OR FUMES OF ANY KIND,
AND NOT AFFECTED
BY
ATMOSPHERIC
CHANGES

NO TAR,
NO ASPHALT,
HAS A BASIS OF
BEST WOOL FELT,
NOT PAPER.

LIGHT IN WEIGHT,
STRONG AND DURABLE.

WRITE FOR
SAMPLES AND PRICES.

THE STANDARD PAINT COMPANY,

Sole Manufacturers,

81-83 John St., NEW YORK.

Chicago Office: 189 Fifth Ave.

An Iron or Steel Roof

Possesses Many Features of Excellence Over Other Materials.

IT'S CHEAPER, GOES FARTHER, LASTS LONGER
AND IS INFINITELY BETTER THAN MOST ROOF-
ING IN THAT IT IS LIGHTNING, FIRE AND
WINDPROOF.

THE
CIN. COR.
CO.
Box 377
PIQUA, O.

Ours is made of Iron
or Steel, for all pur-
poses and in all styles,
suitable for Factories,
Warehouses, Stores,
Sheds, Mills, etc., or
anywhere that a good
roof at low cost is de-
sired. Write.

STEEL ROOFING

AND SIDING OF ALL KINDS

Painted and Galvanized.

OUR BRAND

G
G E D
G E D G E
D G E
E

MANUFACTURERS.

GEDGE BROS. IRON ROOFING CO.

600 S Fletcher St.,

ANDERSON, IND.

THE GILLETTE-HERZOG MFG. CO

Structural IRON and STEEL.

Mill Buildings, Bridges, Standpipes, Jails.

F. T. Llewellyn, Southern Agent,

1012 HENNING BLDG., New Orleans.

The Ounce of Prevention.

Fire-Resisting **PAINT.**

Fire-Resisting **KALSOMINE.**

ALL COLORS.

Write for particulars.

THE JAMESON FIRE-RESISTING PAINT CO.

No. 62-64 William Street,

NEW YORK.



TRADE MARK

Coated in 1877 and still
unaffected by weather.

DOES YOUR ROOF LEAK?

When one coat of REEDER'S AMERICAN COLD JAPAN will prevent rust why use other paints? Has stood the test of eighteen years, and is "death to rust," for bridges, roofs, iron work and all metals.

BEWARE of frauds who say they have the same. Manufactured SOLELY by

JOHN S. REEDER.

Offices, Glenn Building, Fifth and Race Streets, CINCINNATI, OHIO.

CHATTANOOGA PAINT CO., Chattanooga, Tenn.

Manufacturers of a Superior Grade of

Annual
capacity of
10,000 tons.

RED OXIDE OF IRON PAINT

Best in the market for tin, iron or shingle roofs, railroad cars, iron bridges, steamboats, outbuildings or any place where protection from the weather is desired. Prices and Samples on application.

P. J. PAULY, JR.,
President.

P. J. PAULY, SR.,
Vice-President.

JOS. PAULY,
Secretary.

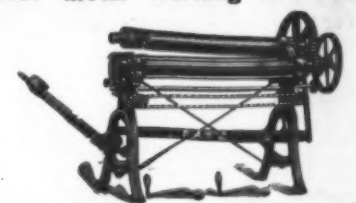
JOHN PAULY,
Treasurer.

THE PAULY JAIL BUILDING & MFG. CO.

2215 DeKalb Street, ST. LOUIS, MO.

The Largest and only Establishment in the World Devoted Exclusively to the Manufacture of JAIL CELLS and Iron Work for Prisons. Correspondence solicited.

Sheet Metal Working Machinery.



Pat'd. Automatic self-opening Forming Rolls, all sizes, for bending up to 1-inch plates. Also Crimping Rolls, seven styles; Squaring Shears and Punches; also combined Shears and Punches. CAMBRIDGE CITY, IND.

BERTSCH & CO.,

QUARTER OF CENTURY OLD.
FAY'S MANILLA ROOFING.
NO TAR
CHEAP WATERPROOF. Not affected by rust, nor RATTLE. Outside tin or iron. No MUST Substitute for Plaster on walls. Durable Proof Sheathing of same material, the Water Proof Sheathing in the market. Write for samples, etc. to the FAY MANILLA ROOFING CO., CAMDEN, N.J.

No Flies
 IN A HOUSE
 WITH OUR
WIRE SCREENS
 SPECIALTY:
 SCREENING HOUSES TO ORDER
 We Pay Freight. Write for Catalogue.
 LARGEST FACTORIES IN THE WORLD.
THE E. T. BURROWES CO.
 PORTLAND, MAINE.
 OFFICES IN ALL LARGE CITIES.

Willer's Fine Wire
 Door and Window
SCREENS • BLINDS
 Pamphlet "Sun-Stopper" (Describing Blinds) Free.
 Pamphlet "Fly-Stopper" (Describing Screens) Free.
WILLER MFG. CO., MILWAUKEE, WIS.

Metal Shingles for Roofing.



A STORMPROOF, FIREPROOF, and DURABLE covering at a LOW COST.

Illustrated Catalogue. Prices and Samples free.
Cortright Metal Roofing Co.
 50 N. 23d St., Phila., Pa.
 184 Van Buren St., Chicago, Ill.

METAL CEILINGS.
 A. NORTHROP & CO., PITTSBURG, PA.

ARTISTIC WIRE WORK
 GRILLS
 BANK & ELEVATOR ENCLOSURES
 WIRE & IRON DOOR WORKS CO.
 LOUISVILLE, KY.

WIRE RAILING

AND
ORNAMENTAL WIRE WORKS
DUFUR & CO.

311 North Howard Street, BALTIMORE.
 Wire Railing for Cemeteries, Lawns, Gardens, Offices and Balconies; Window Guards, Tree Guards, Wire Cloth, Sieves, Fenders, Cages, Sand and Coal Screens, Iron Bedsteads, Chairs, &c.

LUDLOW SAYLOR WIRE CO.

Nos. 114 and 116 South Fourth Street, ST. LOUIS, MO.
ARTISTIC METAL WORK
 In Brass, Wire and Wrought Iron. Elevator Enclosures and Cabs, Bank and Office Railings, Grilles, Fences, etc.

STAINED GLASS WINDOWS C. W. ASBRAND,
 280 Erie Street, CLEVELAND, OHIO.
 OF EVERY DESCRIPTION.

HEFFERNAN STAINED GLASS WORKS

WM. A. HEFFERNAN, Proprietor, LYNCHBURG, VA.
 Ecclesiastical, Memorial and Domestic ART GLASS.
 CORRESPONDENCE SOLICITED.

T.H. BROOKS & CO. CLEVELAND, O.
FLOOR & SIDEWALK LIGHTS.
 OF EVERY DESCRIPTION.
 SEND FOR CATALOGUE.

CHATTANOOGA FOUNDRY & PIPE WORKS,
 DAVID GILES, Pres. C. B. IRESTER, Vice-Pres. M. LLEWELLYN, Secy. and Treas.
 Successors to D. GILES & CO., Chattanooga, Tenn., Manufacturers of

CAST IRON GAS & WATER PIPE
 Also
Castings and Patterns
 Of every description made to order.

R. D. WOOD & CO. ENGINEERS, IRON FOUNDERS, MACHINISTS
 FOUNDRIES AND WORKS:
 Millville, N. J., Florence, N. J., Camden, N. J.
 No. 400 Chestnut Street, PHILADELPHIA, PA.
 Constructors of GAS AND WATER WORKS.

Manufacture Every
 Description of **CAST IRON PIPE.**
 Special Castings, Cutting In Specials.
MATHEW'S SINGLE AND DOUBLE VALVE FIRE HYDRANTS.
 Eddy Valves, Valve Indicator Posts.
GAS HOLDERS AND GAS MACHINERY. Hydraulic Cranes, Presses, Lifts, etc. Turbine and Water Power Pumps. Heavy Special Machinery. Sugar House Work.

Who does your Engraving?
 THE BEST WORK AT FAIR PRICES
 GIVE US AN OPPORTUNITY
 OF PLEASING YOU. ENGRAVINGS FOR THE
 MERCHANT, MANUFACTURER AND PRINTER.
BALTIMORE ENGRAVING CO.
 BALTIMORE, MD. U.S.A.

WILLIAM L. STENDER, COPPERSMITH,
 Manufacturer of all kinds of COPPER WORK. Dyers' Cylinders, etc., made to order. Brewery, Steam and Fire Kettles. Steam Pipes for Mill and Blast Furnaces.
 197 First Avenue, PITTSBURG, PA.

WM. C. ROBINSON & SON,
 Manufacturers of
HIGH-GRADE LUBRICATING
- - OILS - -
 Cylinder, Engine, Spindle, Loom & Dynamo Oils.
 GREASES.
 Oils for All Types of Machinery.
217 SOUTH ST., BALTIMORE, MD.

Covert Patent Adjustable Soldering Irons and Coppers

It is a complete tool in every respect, and can be as easily adjusted at angle while hot as cold. The handle can be used indefinitely, as when the copper is worn out it can be replaced in the same handle, making the iron as good as new at about half the cost of the ordinary soldering iron.



A sample of 1-in. Soldering Iron will be sent by mail free of postage to any address on receipt of fifty cents (50c.)
 FOR SALE BY ALL GENERAL HARDWARE AND PLUMBERS' SUPPLY HOUSES.
COVERT MFG. CO., - West Troy, N. Y.

TINNERS' CAN-MAKERS'
NIAGARA TOOLS.
 PRESSES DIES SHEARS
NIAGARA STAMPING & TOOL CO., Buffalo, N. Y.

IF YOU WANT TO KNOW
 Anything about the South, about its resources, the progress of its development, the establishment and growth of new enterprises, you can find it all in the MANUFACTURERS' RECORD, and only there. There is no other medium that will keep you so well posted about anything that pertains to the South.

The MANUFACTURERS' RECORD is published weekly, and will be mailed to you one year for Four dollars, six months for Two dollars, or three months for One dollar. Sample copies free.

BALTIMORE MD.

LOWELL MACHINE SHOP, LOWELL, MASS. Cotton Machinery

We Manufacture Everything Required
for the Complete Equipment of Cotton Mills.
Plans and Estimates Furnished on Application. Correspondence Solicited.

LOOMS The SEACONNET MILLS, Fall River, wove in 301 days of 10 hours each, 14,329,219 yards of 60x64 goods on the 928 of our "NEW HIGH-SPEED LOOMS," a daily average of 51 3-10 yards per loom per day Cotton and Silk Weaving. KILBURN LINCOLN & CO., FALL RIVER, MASS.

GEO. W. PAYNE & CO. CONE WINDERS

FOR KNITTING MILLS.
Also Upright Spoolers, Doubling Spoolers, Upright Quillers. PAWTUCKET, R. I.

BRANSON KNITTING MACHINES

¾ AUTOMATIC, PLAIN AND FAMILY.

Ribbers single and double feed. Write for full particulars.

Branson Machine Co., 506 St. John Street, Philadelphia, Pa.

NYE & TREDICK, PHILADELPHIA, PA., U. S. A.

The Leading MANUFACTURERS of
CIRCULAR RIB KNITTING MACHINERY

Send for Prices and Circulars.

THE D. A. TOMPKINS CO.

Manufacturers,
Engineers
and Contractors.

CHARLOTTE, N. C.

COTTON MILL MACHINERY,

Cotton Mill Repairs,
Gear Cutting,
Roll Covering.

We are prepared to take comprehensive contracts for the complete construction and equipment of cotton mills.

We operate a Repair Shop and will promptly do all cotton mill repairs and roll covering, etc.

SAVOGRAN

Cleans Wool, Mill Floors, ANYTHING.

FOR COTTON AND WOOLEN MILLS.

Standard Articles for their Purposes.

INDIA ALKALI WORKS, 77 Broad Street, Boston.

OPENERS, PICKERS,
REVOLVING FLAT CARDS,
SELF ACTING MULES.
Sole Agents in
United States and
Canada.

TEXTILE MACHINERY.

DRAWING, SLUBBING,
INTERMEDIATE AND
ROVING FRAMES
"VERVIER'S" PAPER
TUBE, for Cotton,
Worsted, Woolen and
Silk Spinning.

H. G. McKERROW & CO., 31 State Street, BOSTON, MASS.

CARDS.

FRAMES

MASON
MACHINE WORKS,
COTTON MACHINERY,
TAUNTON,
MASS.

MULES.

LOOMS.

Steam Engines
and Boilers.

Ice Machines.
Open Hearth
Steel Foundry
Equipment.
Water Works.

COTTON
COMPRESSES
STEAM AND HYDRAULIC.

Rolling Mill Work,
Valves and Cocks
For Heavy Pressure
Cranes and
Accumulators.
Steam, Water and
Ammonia Fittings.
Iron, Brass and
Steel Castings.

THE VULCAN WORKS, Chester, Pa.

COTTON OIL TANK CARS

ALSO MANUFACTURE
ALL STYLES FREIGHT EQUIPMENT.
MURRAY, DOUGAL & CO. LTD. MILTON, PA.

MADE ESPECIALLY FOR
COTTON OIL TRADE

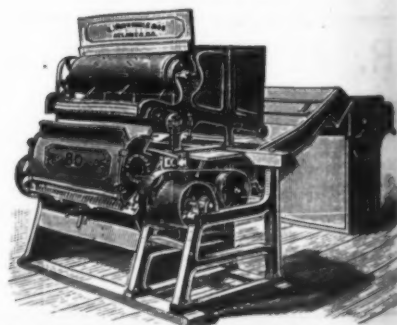
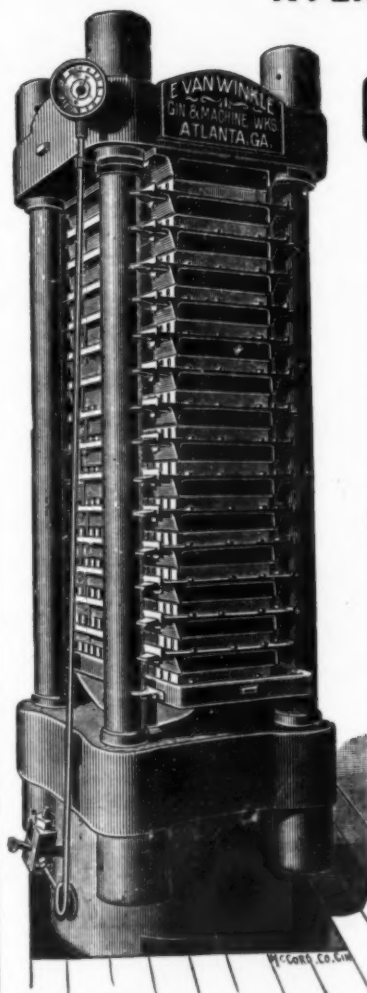
E. VAN WINKLE GIN & MACHINE WORKS ATLANTA, GA.

... Manufacture ...

Cotton Seed Oil Machinery

LINTERS,
HULLERS,
PRESSES,
Hydraulic Pumps
AND ALL FIXTURES.

Cotton Seed Oil Mills
EQUIPPED COMPLETE FROM
10 to 100 Tons
CAPACITY.



LATEST IMPROVED COTTON GINNING OUTFITS, and best manner of handling the Cotton and Seed. Our Ginning plans get low rates of insurance. Write for prices.

MACHINERY for Manufacturing
Cotton and Wool; Bleaching, Dye-
ing, Printing and Finishing Goods;
Engines, Boilers, Dynamos, etc.,
New and Second-Hand.

W. SEABURY SIMMONS.

34 Thomas Street, NEW YORK CITY.

FOR SALE.

Cotton and Woolen Machinery.

A large lot to select from in our storehouse here with over two acres of storage.

JEREMIAH CLARK,

277 DUTTON STREET, LOWELL, MASS.

Send for Catalogue.

Subscribe to the Manufacturers' Record.
Price \$4 a year, or six months for \$2.

CHARLOTTE MACHINE COMPANY,

Sole Southern Agents for

Pettee Machine Works,

NEWTON, UPPER FALLS, MASS.

Manufacturers of

 Revolving Flat Cards,
 Coiler Railway Heads,
 Coiler Drawing Frames.

H. S. CHADWICK, President and Treasurer.

CHARLOTTE, N. C.

ENGINEERS, CONTRACTORS

and

Dealers in Machinery.

SPECIALTY:

COTTON MACHINERY

and

COTTON MILL EQUIPMENT

Also Agents for

C. & G. COOPER & CO.'S Corliss Engines; High Pressure, Triple Expansion, Compound and Condensing. Boilers, Heaters and Pumps.

Complete Steam Plants from 25 to 3000 Horse-Power. Automatic Sprinklers for Fire Protection.

JONES & LAUGHLIN'S Cold Rolled Steel Shafting, Compression Couplings, Hangers, Pulleys, Etc.

A. T. ATHERTON MACHINE CO., Manufacturers of Patent Cotton Openers, Opener Feeders and Lappers.

FALES & JENKS MACHINE CO., Manufacturers of Spinning and Twisting Machinery, with No. 49 D Rabbeth and Sherman Spindles.

Estimates Given and Contracts Made for the Complete Equipment of Cotton Mills.

CORRESPONDENCE SOLICITED.

Sole Southern Agents for

Easton & Burnham Machine Co.

PAWTUCKET, R. I.

Manufacturers of

 Improved Upright Spoolers
 Cop, Skein or Bobbin,
 Doubling Spoolers,
 New Self-Oiling Spooler Spindle.

Sole Southern Agents for the

Foster Machine Co.

WESTFIELD, MASS.

FOSTER

CONE

WINDERS.

Special Southern Agents for

B. F. Sturtevant Co.

BOSTON, MASS.

Manufacturers of

 The Sturtevant Blower System,
 Heating, Ventilating and Moistening Apparatus.

Agents for

**Cohoes Iron Foundry
& Machine Co.**

COHOES, N. Y.

 Slashers, Size Kettles and Sizing
 Machinery.

Sole Southern Agents for

Providence Machine Co.

PROVIDENCE, R. I.

Manufacturers of

 The "Hill" Roving Frames,
 with Latest Improvements.

Sole Southern Agents for

KNOWLES LOOM WORKS

WORCESTER, MASS.

Agents for

Curtis & Marble Machine Co.

WORCESTER, MASS.

 Cloth Shearing, Brushing, Singeing,
 Rolling, Folding, Measuring and
 Sewing Machines.

AMERICAN SUPPLY COMPANY,

Formerly MYRON FISH & CO., of Valley Falls, R. I., and KENDRICK LOOM HARNESS CO., of Providence, R. I.

~~~~~MANUFACTURERS OF~~~~~

## Loom Harness and Reeds.

OAK BELTING, LACE AND PICKER LEATHER,

And Dealers in Supplies for Cotton, Woolen and Silk Mills.



Agents for JOSEPH NOONE'S SONS'

Roller, Slasher and Clearing Cloths,

Calf, Sheep  
and Lamb

Roller Skins

and Roll Coverers' Tools.

WE HAVE UNEQUALLED FACILITIES FOR FURNISHING

Shuttles and Heddle Frames,

WIRE HEDDLES AND WIRE GOODS

Of all Descriptions.

SPECIAL NOTICE TO WORSTED AND SILK MILLS.--We manufacture both Worsted and Cotton-Machine Knit Mail Harness for Weaving Fine Worsted and Silk Goods. Also a full line of Supplies for Jacquard Looms.

Office and Salesrooms, 11-13 Eddy Street, Providence, R. I.

FACTORIES:

PROVIDENCE and VALLEY FALLS, R. I.

PELEG W. LIPPITT, President.

JOHN E. KENDRICK, Vice-Prest.

MYRON FISH, Treas.

JOHN A. CARTER, Sec'y

JOSEPH H. KENDRICK, General Manager.







## THE BAY LINE

Old Point Comfort, Norfolk and the South.  
The Bay Line comprises the New and Elegant Steamers  
ALABAMA, GEORGIA and VIRGINIA.

All the Comforts and Luxuries of a first-class Hotel are  
afforded the traveler. Spacious and elegant Saloons and  
staterooms, furnished with an especial view to comfort.  
Superior Cuisine, which is made a specialty with this  
line. Elegant service and courteous attention. Steam-  
ers leave Baltimore daily (except Sundays) at 8.30 P. M.  
from Union Dock; 7 P. M. Canton Wharf.  
At Old Point Comfort is located the Splendid HYGELA  
Hotel, a Delightful Resort at all Seasons of the Year.  
For Rates and Information apply at Company's Office,  
129 E. BALTIMORE STREET, BALTIMORE.

Or on Board of Steamers.  
J. L. MILL, Superintendent.  
E. BROWN, General Ticket Agent.

BALTIMORE, CHESAPEAKE & RICHMOND STEAM-  
BOAT CO. BALTIMORE AND NORFOLK LINE.  
YORK RIVER LINE. For Old Point, Norfolk and  
Richmond and all points South.

On and after JULY 1st, 1896, this company will  
operate the above-named lines from Pier No. 1,  
Light street, as follows: For Old Point and Nor-  
folk—leave Baltimore daily (Sunday excepted) at  
8 P. M., connecting at Norfolk with Southern  
Railway, Atlantic Coast Line, Norfolk and West-  
ern and Norfolk and Southern Railroads. For  
West Point, Richmond and Southern Railway—  
leave Baltimore daily (Sundays excepted) at 5  
o'clock P. M., calling at Gloucester Point and  
Allmonds Mondays, Wednesdays and Fridays,  
and Yorktown and Clay Bank Tuesdays, Thurs-  
days and Saturdays. Through tickets issued to  
all points, and can be procured at the Baltimore  
Transfer Company, 205 E. Baltimore street, where  
reservations for staterooms can be made and  
baggage checked. For further information apply  
at General Offices, 530 Light street.  
REUBEN FOSTER, E. J. CHISM,  
Gen. Manager. Gen. Fgt. & Ticket Agt.

## MERCHANTS &amp; MINERS'

Transportation Company.  
For BOSTON and the EAST—Every Tues-  
day, Thursday and Sunday at 4 P. M.  
For PROVIDENCE and the EAST—Every  
Monday, Wednesday and Friday at 4 P. M.  
For SAVANNAH and the SOUTH—Every  
Tuesday and Friday at 3 P. M.  
For NEWPORT NEWS and NORFOLK—  
Daily and Sunday (except Saturday), 4 P. M.  
Passenger Accommodation Unequaled.  
On-line the Best. Freight Capacity Unlim-  
ited; careful handling and quick dispatch.  
C. R. GILLINGHAM, Agent, Long Dock.  
A. D. STEBBINS, A. T. M.  
W. P. TURNER, G. P. A.  
J. C. WHITNEY, T. M.  
General Offices—216 WATER STREET.

## \$2.50 BUFFALO TO CLEVELAND.

DAILY LINE BETWEEN  
CLEVELAND and TOLEDO  
Via "C. & B. LINE."

Steamers "City of Buffalo," (new)  
"State of Ohio" and "State of New York."

DAILY TIME TABLE.  
SUNDAY INCLUDED AFTER MAY 30.  
Lv. Buffalo, 8.30 P. M. | Lv. Cleveland, 8.30 P. M.  
Ar. Cleveland, 8.30 P. M. | Ar. Buffalo, 8.30 A. M.

EASTERN STANDARD TIME.  
Take the "C. & B. Line" steamers and enjoy a  
refreshing night's rest when enroute to Cleveland,  
Toledo, Columbus, Cincinnati, Indianapolis, Detroit,  
Northern Lake Resorts, or any Ohio, Indiana or  
Southwestern point.

Send 4 cents postage for tourist pamphlet.  
For further information ask your nearest Cou-  
pon Ticket Agent, or address

W. F. HERMAN, T. F. NEWMAN,  
Gen'l Pass. Agt. Gen'l Manager.  
CLEVELAND, OHIO.

## The COAST LINE to MACKINAC

TAKE THE



TO MACKINAC  
DETROIT  
PETOSKEY  
CHICAGO

## 2 New Steel Passenger Steamers

The greatest perfection yet attained in boat  
construction—luxurious equipment, artistic furn-  
ishing, decoration and efficient service, insuring  
the highest degree of comfort, speed and safety.

Four trips per week between Toledo, Detroit  
and Mackinac, Petoskey, "The Soo," Marquette,  
and Duluth. Low rates to picturesque Mackinac  
return, including meals and berths.

From Cleveland, \$18; from Toledo, \$15; from  
Detroit, \$13.50.  
Every evening between Detroit and Cleveland,  
connecting at Cleveland with earliest trains for all  
points East, South and Southwest and at Detroit  
for all points North and Northwest.

Sunday Trips June, July, August and Sep-  
tember only.  
Every day between Cleveland, Put-in-Bay and  
Toledo.

Send for illustrated pamphlet. Address  
A. A. SCHANTZ, G. P. A., Detroit, Mich.

The Detroit & Cleveland Steam Nav. Co.

## ATLANTIC TRANSPORT LINE.

NEW YORK, PHILADELPHIA and  
BALTIMORE to LONDON direct.

| TONS                | TONS             | TONS |
|---------------------|------------------|------|
| Massachusetts, 7600 | Minnesota, 5000  |      |
| Manitoba, 7600      | Menantic, 5000   |      |
| Mobile, 7600        | Massapequa, 5000 |      |
| Mohawk, 7600        | Maryland, 4250   |      |
| Mississippi, 5500   | Missouri, 4250   |      |
| Michigan, 5500      | Montana, 4250    |      |
|                     | Maine, 4150      |      |

BALTIMORE STORAGE & LIGHTERAGE CO.  
408-400 Water Street, Baltimore.  
New York, 4 Broadway. Chicago, 236 LaSalle st.  
Phila., 303 Walnut st. St. Louis, 397½ Pine st.  
London, 108 Fenchurch st.

## OLD DOMINION LINE

Steamers daily to and from New York and the  
ports of Virginia, with rail and water con-  
nections to all points. Through passage and freight  
rates on lowest terms.

This route specially commends itself to tourists  
and pleasure seekers, prospectors, settlers and  
business men reaching, as it does, all the great  
markets South, Southwest and West, while its  
facilities for the safe and expeditious handling  
of freight of all kinds are unsurpassed.  
For full information as to rates, sailings, etc.,  
address

OLD DOMINION STEAMSHIP CO.  
W. L. GUILLAUME, Traffic Mgr.  
Pier 26, N. R., NEW YORK.

Or agencies at Norfolk, Richmond, West Point  
and Newport News, Va., Newberne, N. C.,  
Washington, N. C., and in the North and East.

POPULAR AND DIRECT ROUTE.

## THE BAY LINE

For Old Point Comfort, Norfolk  
and the South.

Steamers leave daily (except Sunday) Union  
Dock 6.30 P. M., Canton Wharf 7 P. M.; arrives  
Old Point Comfort 7 A. M. at Norfolk at 8 A. M.,  
Portsmouth 8.15 A. M. At OLD POINT COM-  
FORT connect with CHESAPEAKE & OHIO  
RAILROAD for Richmond, Charlottesville,  
Greenbrier, White Sulphur Springs, Louisville,  
Cincinnati and all points West. At NORFOLK  
with NORFOLK & WESTERN RAILROAD for  
Petersburg, Richmond, Lynchburg, Roanoke,  
Bristol, Knoxville, Chattanooga, Memphis and  
the Southwest; also with the NORFOLK  
SOUTHERN RAILROAD for Elizabeth City,  
Edenton and Eastern North Carolina. At  
PORTSMOUTH, VA., with SEABOARD &  
ROANOKE RAILROAD for Weldon, Raleigh,  
Southern Pines, Pine Bluff Health Resort, Peach-  
land, Mount Holly, Charlotte, Fayetteville, New-  
berne, Wilmington, Charleston, Columbia,  
Augusta, Savannah, Jacksonville and all the  
Principal Southern Cities.

Palace Steamers, Unsurpassed Cuisine, Undis-  
turbed Night's Rest. Sure Connection.  
For tickets and information apply at Company's  
Office, 129 East Baltimore Street,  
or on board steamers.  
E. BROWN, G. T. A. KENNON JONES, Agt

## Southern Pacific Co.

## SUNSET ROUTE

TO

Southwest Louisiana, Texas,  
New and Old Mexico,  
Arizona and

## CALIFORNIA.

The Standard Gauge Short Line.

Land Seekers' rates available from New  
Orleans to any Southwest Louisiana point on  
line of road. These tickets are on sale, good  
for thirty days to return, thus enabling pros-  
pective locators ample opportunity for inspecting the

RICHEST LANDS IN THE WORLD

For information regarding rates, average price  
of lands and descriptive matter of Southwest  
Louisiana, call on or address

E. HAWLEY, A. G. T. M.

343 Broadway NEW YORK.

J. C. SCHRIEVER, T. M.,  
New Orleans, La.

CINCINNATI HAMILTON & DAYTON RY.

CH&D

CINCINNATI

INDIANAPOLIS CHICAGO DAYTON TOLEDO DETROIT

## BIG FOUR ROUTE.

Cleveland, Cincinnati,  
Chicago and St. Louis Railway.

## To WESTERN and SOUTHERN POINTS

Through Sleeping Cars from New York to  
Cincinnati, Indianapolis and St. Louis, via New  
York Central to Buffalo, L. S. & M. S. Ry. to  
Cleveland, BIG FOUR ROUTE to destination.

ELEGANT CONNECTIONS  
With all Trunk Lines in New York State.  
Ask for Tickets via Big Four Route.

R. O. McCormick, Passenger Traffic Manager.  
D. B. Martin, Gen. Pass. and Tkt. Agt.  
BIG FOUR ROUTE, Cincinnati, O.

## The Cleveland, Lorain &amp; Wheeling

RAILWAY.

Short and only direct line between  
CLEVELAND, MEDINA, STERLING,  
WARWICK, MASSILLON, JUSTUS, CA-  
NAL DOVER, NEW PHILADELPHIA,  
UHRICHVILLE, ST. CLAIRSVILLE,  
BRIDGEPORT, BELLAIRE and WHEEL-  
ING.

Direct connections made at CLEVELAND  
for NEW YORK, BOSTON, ALBANY and  
all points East, and at ELYRIA and  
LORAIN for points West.

W. R. WOODFORD, Gen. Mgr.  
M. G. CARREL, Gen. Pass. Agt.

## Wheeling &amp; Lake Erie Railway

NEW THROUGH LINE  
BETWEEN  
TOLEDO and OHIO RIVER POINTS  
WHEELING, STUBENVILLE  
PITTSBURGH and MARIETTA.

THROUGH COACHES to the Ohio River, and  
through connections to Pittsburgh and all points  
EAST, via Akron, Cuyahoga Falls, Kent, Ra-  
venna, Leavittsburg, Warren, Niles, Girard,  
Youngstown, New Castle and Allegheny.  
The only line ticketing its passengers through  
to Philadelphia, New York and New England  
Cities, via Washington and Baltimore, at Short  
Line Rates.

A. G. BLAIR, JAS. M. HALL,  
General Manager. Gen. Pass. Agent.

## SOUTHERN RAILWAY

THE NATIONAL HIGHWAY  
BETWEEN THE NORTH AND THE SOUTH.

Operating the "WASHINGTON AND SOUTHWESTERN LIMITED"

A magnificent train composed of Pullman Palace Drawing-Room Vestibuled Sleeping Cars  
between New York, Philadelphia, Baltimore, Washington and Atlanta, Montgomery, Mobile, New  
Orleans, Birmingham, Memphis, Savannah, Jacksonville and Tampa, Asheville, Hot Springs,  
Knoxville and Chattanooga. Dining-car service between Greensboro, N. C., and Montgomery, Ala.

## Also the "UNITED STATES FAST MAIL"

Composed of Pullman Palace Drawing Room Sleeping Cars  
between New York and Montgomery, and New York and Jacksonville. Also carries Day Coaches  
between Washington and Atlanta without change. This line was selected by the United States  
Government for the prompt expedition of the mails. The only line penetrating Western North  
Carolina, affording the most magnificent scenery east of the Rocky Mountains. Write for "The Land  
of the Sky and Beyond," a beautifully-illustrated brochure, or "Summer Homes Folder," giving  
information concerning hundreds of elegant Summer Resorts.

W. H. GREEN, J. M. CULP, W. A. TURK,  
General Superintendent. Traffic Manager. General Passenger Agent.



## The Queen &amp; Crescent Route

Workingmen and farmers wanted to locate in the South. No blizzards;  
no cold waves; no sunstrokes. Land on the line of the Queen & Crescent  
sells for \$3.00 to \$5.00 an acre, and on easy terms. They're raising 40 to  
50 bushels of corn per acre. Grass grows green ten months in the year.  
Healthy climate. Good churches and schools. Write W. C. Rinearson, G.  
P. A., Cincinnati, for books and maps. Round-trip tickets South April 7th,  
April 21st, and May 5th, about half rates; one-way tickets first Tuesday  
each month, half rates. Go South and find the easiest place on earth to  
secure your own home, with your own

## Land and A Living.

## WESTERN MARYLAND RAILROAD.

Short Freight Line to Westminster, Frederick, Taneytown and Hagerstown, Md.; Waynesboro,  
Chambersburg, Shippensburg, Hanover, Gettysburg and Carlisle, Pa.; also points on the Frederick  
Division P. R. R., Gettysburg & Harrisburg R. R., Harrisburg & Potomac R. R., Shenandoah Valley  
R. R., Norfolk & Western R. R. and connections, also route of

## GREAT SOUTHERN DESPATCH.

All-rail Fast Freight Line for Southern and Southwestern points, via Bristol, Tenn. Freight  
received in any quantity at Hillen Station, and in carloads at Fulton, Canton and Jackson's Wharf.  
Shippers desiring information will be called on. Send postal card with address to

B. H. GRISWOLD, General Freight Agent,  
HILLEN STATION, BALTIMORE, MD.

## PEN-MAR!

PEERLESS AND ENCHANTING.

SEASON 1896  
BEGINS WEDNESDAY, JUNE 17TH.

## EXCURSIONS DAILY,

INCLUDING SUNDAY,

9.15 A. M. - \$1.00.

Societies and Organizations desiring informa-  
tion regarding open dates and arrangements for

SPECIAL EXCURSIONS  
TO PEN-MAR

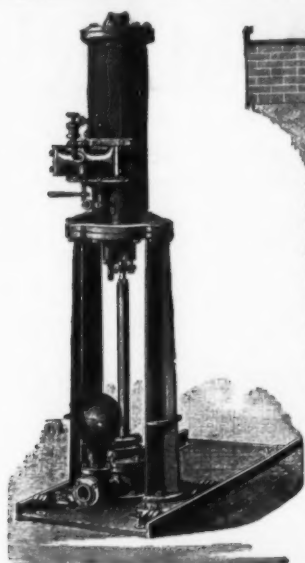
Apply to or address  
THOMAS E. JENKINS,  
Excursion Agent W. M. R. R.  
Baltimore, Md.

## BIG WAGES

and big salaries depend on a man's abili-  
ties. They depend on what he knows.  
The men who work the longest hours and  
get the smallest pay are those who put  
their brains to the least use.  
There are three pursuits in which the  
wages and salaries are liberal to bright  
people. These people are skilled mechan-  
ics, engineers and machinists. The more  
they know, the more pay they get.  
Lord's Power and Machinery Magazine  
will teach ambitious workmen the most  
valuable lessons. It will be worth more  
to them in one month than it costs for five  
years. It covers most thoroughly the en-  
tire field of mechanics, engineering and  
machinery. Published monthly for \$1 a  
year. Send 10 cents for a sample copy.

GUILD & LORD  
615 Atlantic Ave., Boston, Mass.





Artesian Well Pumps.

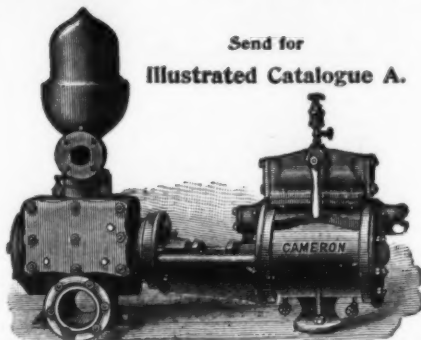


Mining Pumps.

# CAMERON STEAM PUMPS.

Pumps for—  
Boiler-Feeding,  
Mines,  
Refineries,  
Breweries,  
Tanneries,  
Irrigating,  
Fire Purposes,  
Railroads and  
Filling Tanks.

Send for  
Illustrated Catalogue A.



SIMPLE,  
COMPACT,  
DURABLE,  
EFFICIENT.

ADAPTED TO  
ALL PURPOSES.

NO OUTSIDE  
VALVE GEAR.

CRANK,  
FLY-WHEEL  
and VACUUM

**PUMPS.** THE A. S. CAMERON STEAM PUMP WORKS,

Foot of East 23d St., NEW YORK.

Piston Pattern. Plunger Pattern.

HYDRAULIC PRESSURE PUMP

SMALL BOILER FEEDER

MARSH STEAM PUMPS

STANDARD FOR ALL DUTIES

MANUFACTURED BY THE BATTLE CREEK STEAM PUMP CO.

BATTLE CREEK MICH.

PATENT SELF-GOVERNING STEAM VALVE

PATENT EASY SEATING WATER VALVES

NO OUTSIDE VALVE GEAR

FOR DEEP WELLS

12,000 SOLD IN SEVEN YEARS

MAXIMUM STRENGTH SIMPLICITY AND SERVICE

WRITE FOR CATALOGUE

LARGE TANK

COMPOUND

AIR COMPRESSOR

LARGE BOILER FEEDER

... SEND FOR CATALOGUE ...

OVER 20,000 IN USE

BEST AND CHEAPEST STEAM PUMP KNOWN

PULSOMETER STEAM PUMP CO. SOLE OWNERS-NEW YORK.

(COPYRIGHTED 1891)

**RUNSEY & COMPANY, LTD.**

PUMPS AND HYDRAULIC APPARATUS.

OFFICE AND FACTORY  
SENECA FALLS, N.Y.

WAREHOUSES.  
35 DEY ST. NEW YORK

**THE SNOW STEAM PUMP WORKS,**  
BUFFALO, N. Y.

**Pumping Machinery**

FOR ALL SERVICES.

Baltimore Office—308 North Howard Street.  
Henion & Hubbell, 61 to 69 Jefferson Street, Chicago, Ill.  
Charlotte Supply Co., Charlotte, N. C., Agents for North Carolina.  
Bailey-Lobby Co., Charleston, S. C., Agents for South Carolina.  
O'Connell-Rogers Co., Chattanooga, Tenn., Agents for Tennessee.

EVERY VARIETY OF  
**PUMPING MACHINERY**

GEORGE F. **BLAKE** MFG. CO.

95-97 LIBERTY ST. NEW YORK

BOSTON CHICAGO PHILA. LONDON

**BREWERY PUMPS**

IN EVERY VARIETY.

**WELL DRILLING MACHINERY,**  
MANUFACTURED BY  
**WILLIAMS BROTHERS,**  
ITHACA, N. Y.,

Mounted and on Sills, for  
deep or shallow wells,  
with steam or horse  
power.

Send for  
Catalogue.

ADDRESS  
Williams Brothers  
ITHACA, N. Y.

**PUMPS**

FOR USE IN  
**Furnaces, Mines and Factories.**

Triplex Power and Electric Pumps, Rotary Fire Pumps,  
Artesian Well Steam Pumps, Hydraulic Test Pumps, Etc.

MANUFACTURED BY  
**THE DEMING CO., Salem, Ohio.**

General Western Agents: Henion & Hubbell, 61-69 N. Jefferson St., Chicago, Ill.

**Dean Bros. Steam Pump Works,**  
—INDIANAPOLIS, IND.—

SINGLE & DUPLEX PUMPS.  
HORIZONTAL AND VERTICAL PUMPS.  
Best Design & Workmanship.

PRICES REDUCED Send for CATALOGUE.

THE LEITCH

**Variable Stroke Power BOILER FEED Pump**

FOR FEEDING BOILERS, TANKS, Etc.

Stroke Varied without Stoppage to Regulate Capacity of Pumps to requirements under any condition.

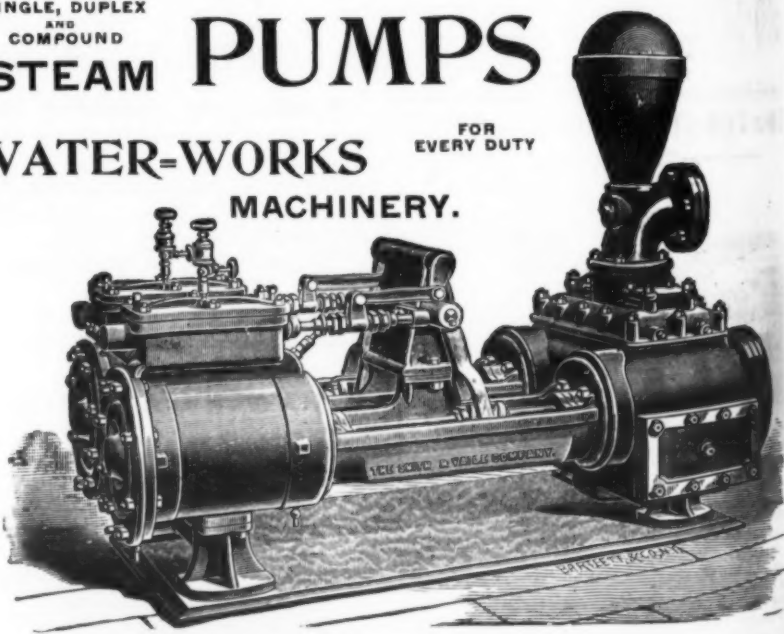
Size, 2 1/4 in. by 3 in. Larger Sizes Geared.

**LEITCH PUMP & MACHINE WORKS,**  
W. M. LEATHLEY & CO.  
RICHMOND, VA.

**THE IMPROVED SMITH & VAILE**

SINGLE, DUPLEX  
AND  
COMPOUND  
**STEAM PUMPS**

**WATER-WORKS MACHINERY.**



**THE STILWELL-BIERCE & SMITH-VAILE CO.**

DAYTON, OHIO, AND NEW YORK,

112 LIBERTY STREET.

SOUTHERN AGENTS: J. W. TAYLOR, 46 and 42 W. Alabama Street, Atlanta, Ga.  
L. METESSER, 712 Union Street, New Orleans, La.  
JOHN H. BUXTON, 512 Equitable Building, Baltimore.

SANSON

THE J

PUM

BRAN

RICHMOND

SOUTH

ARTESIAN WATER

40 and

Deep Well Valves and Estimates on all work

LIGHTN PUMPS GASOL CIRC THE AMER AURORA

RHOADS FIELD YE

Flus

FLU

All our S



**BURNHAM'S** New Improved Standard  
...TURBINE...

It gives on either a Vertical or Horizontal Shaft more power for its price, yields a greater percentage for water used, either with full or part gate drawn, and is the simplest, most durable and best finished wheel made. Send for new catalogue.

BURNHAM BROS., York, Pa.

**S. MORGAN SMITH, YORK, PA.**

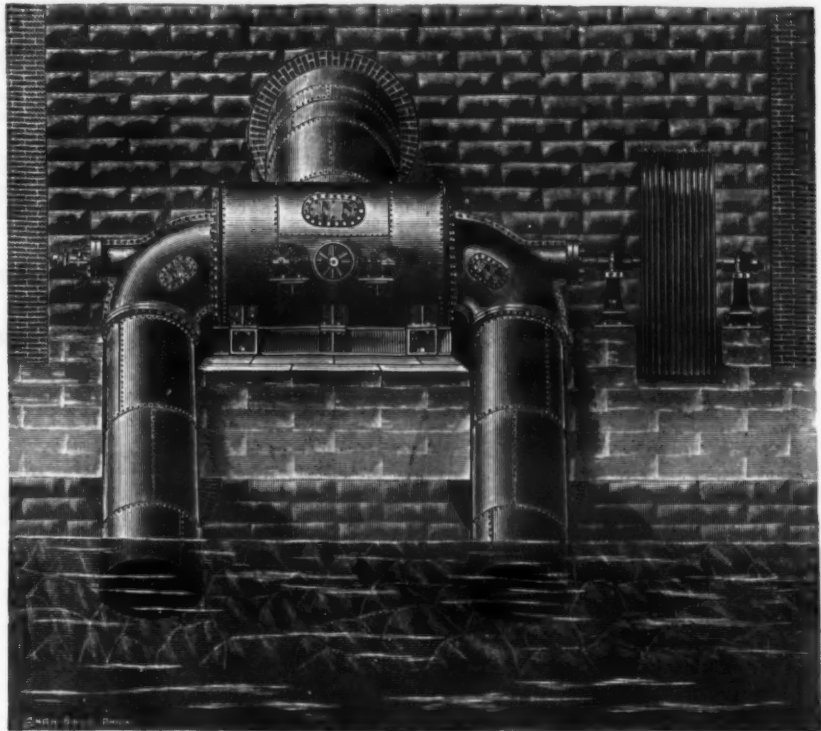
MANUFACTURER

HYDRAULIC ENGINEER.

**The McCormick Turbine.**

POWER TRANSMITTING MACHINERY AND FLUME WORK.

Estimates furnished for Complete Power Plants and results guaranteed.



This engraving represents a pair of 30-inch double discharge horizontal McCormick Turbines, developing 700 horse-power, in the Mayo (Mayodan, N. C.) Cotton Mills.

**WATER WHEEL**

150 Styles and Sizes. Upright and Horizontal.  
**33 YEARS' BUSINESS**  
affords every facility for adapting them to

**MILLING, MINING, ELECTRIC,**  
and manufacturing purposes. Easy working balanced gate, and fine regulation. We guarantee highest power, with smallest quantity of water, at full and part gates. Successfully operating under heads of 2 to 300 feet. Write us for fine pamphlet and state your wants.

**THE JAMES LEFFEL & CO.**  
SPRINGFIELD, OHIO, U. S. A. NEW YORK CITY.



Water for Country Use.

**THE DOMESTIC PUMP.**

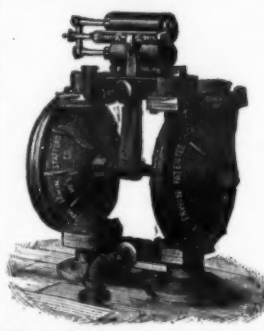
A Wonderful Invention  
for Raising Water.  
*The Windmill's  
Greatest Rival.*

Used with our New  
Water Supply System for  
Country Homes, Hotels,  
Summer Resorts, also  
for Irrigation, Railroad  
Tanks, Stock Yards and  
Factories.

**THIS SYSTEM SUPPLIES  
THE CONVENIENCES,  
COMFORTS & LUXURIES  
OF THE CITY FOR EVERY  
COUNTRY HOME.**

General Agents wanted  
for every State.  
Send for Descriptive Cir-  
cular.

The Erwin Hydraulic Machinery Company, 58-59 Loan and Trust Building,  
MILWAUKEE, WIS.

**The Milwaukee  
Water Elevator**(Or HYDRAULIC  
MOTOR.)

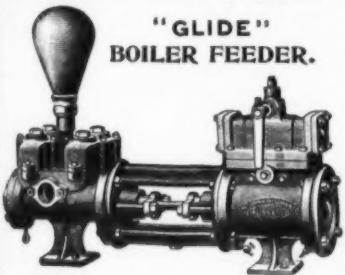
For Raising  
Cistern  
Water and  
Increasing  
City Water  
Pressure  
for High  
Buildings.  
Send for  
Circular

**THE JOHN H. MCGOWAN CO.**

EVERY VARIETY

**PUMPING MACHINERY.**

"GLIDE"  
BOILER FEEDER.



BRANCH, RICHMOND, VA. Cincinnati, O.

**SOUTHERN WATER SUPPLY  
COMPANY**

**ARTESIAN WELL DRILLERS  
WATER WORKS CONTRACTORS**

40 and 42 West Alabama Street,  
ATLANTA, GA.

Deep Well Pumping Outfits, Pipes, Hydrants,  
Valves and General Water Works Supplies.  
Estimates, plans and specifications furnished  
on all work.

**LIGHTNING WELL MACH'Y**  
PUMPS, AIR LIFTS.  
GASOLINE ENGINES.  
CIRCULARS FREE  
THE AMERICAN WELL WORKS.  
AURORA, ILL. - CHICAGO - DALLAS, TEX.

RHOADS-WILLIAMS,  
FIELD-WARING and  
YETEVÉ Automatic

**SIPHONS****Flushing Sewers**

and for disposal of sewage in private  
grounds. Send for Catalogue.

**FLUSH TANK CO.**

186 Van Buren Street, CHICAGO

All our Siphons operate without movable parts.

**Davis Foundry & Machine Works**

ROME, GA.

**DAVIS**

DOUBLE

**Turbine  
Water  
Wheel**

Beyond all question one of the Best Wheels on  
the market, and is fully guaranteed.

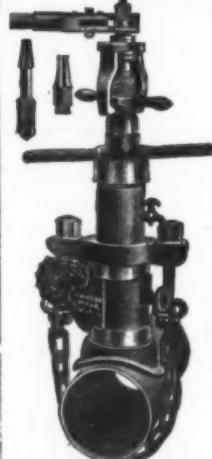
ALSO MANUFACTURE

Portable and Stationary Engines and Boilers,  
Grist and Flour Mill Machinery.

Send for Illustrated Catalogue and Prices.

**H. MUELLER MFG. CO.** DECATUR,  
ILL.

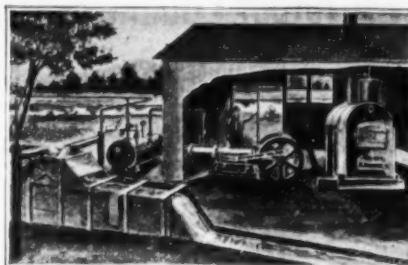
Sole Manufacturers of

**Mueller's  
Tapping  
Machines**

For Water and Gas Mains.

Corporation Cocks,  
Lead Goose Necks,  
Water Regulators,  
Water Connections,  
Soldering Nipples,  
Stop Cocks,  
Hopper Cocks,  
Basin Clamps, etc.  
All Goods Guaranteed  
All Goods Branded  
"H. M."

Write for prices.



The Air Lift applied to bored or artesian wells.

**THE PNEUMATIC ENGINEERING CO.**

100 Broadway, NEW YORK.

Pneumatic Systems of Pumping

... WITH ...

**RAND AIR COMPRESSORS.**

THE AIR LIFT for Wells.

THE HALSEY PNEUMATIC PUMP  
for Rivers, Ponds, Canals and Mines.

INCREASED WATER SUPPLIES GUARANTEED. Correspondence Invited.

**The Chapman Valve Mfg. Co.**

FOR EVERY PURPOSE

For which a VALVE, WATER GATE or HYDRANT may be  
desired whether for WATER or STEAM, GAS, OIL or ACID,  
HIGH OR LOW PRESSURES.

**THE CHAPMAN**

will be found to meet any requirement. They are made in a large  
variety of styles in the best possible manner and combine all the  
qualities which make them

**The Leading Valves and Hydrants in the Market.**

Send for Illustrated Descriptive Catalogue and Prices.

All genuine Chapman Valves bear our name, trade-mark, monogram.  
General Office and Works: INDIAN ORCHARD (Springfield), MASS.

Treasurer's Office: 72 KILBY ST., BOSTON. Chicago Office: 34 W. LAKE ST. New York Office: 26 PLATT ST.

**THE LUDLOW VALVE MFG. CO.**

Factory and Office: 938 to 954 River St., and 67 to 83 Vall Ave.

SEND FOR  
CATALOGUE.

**TROY, N. Y., U. S. A.**

MANUFACTURERS OF

**Valves and Fire Hydrants,**

DOUBLE AND SINGLE GATE VALVES,

1/2-inch to 60-inch,

FOR LIGHT AND HEAVY PRESSURE,

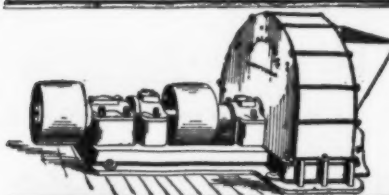
ALSO

**Vertical and Horizontal Check Valves,**

Foot Valves, Air Valves, and Yard  
and Wash Hydrants.







## LATEST IMPROVED CAGE DISINTEGRATOR.

The accompanying cut represents a mill which is unequalled for quantity and quality. It is manufactured in Two Styles

**FOR FINE AND FOR COARSE GRINDING.**

REFERENCES: Standard Phosphate Mining & Chemical Co., Kendrick, Fla. Florida Pebble & Soft Phosphate Co., Kendrick, Fla. Detroit Copper Mining Co., Morenci, Arizona.

**J. R. ALSING CO.,** R. F. Abbe, Proprietor, 60 New Street, New York.



# ROCK

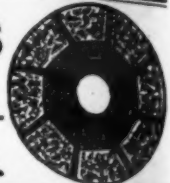
TRADE MARK.

# EMERY

# MILLSTONES

ARE

MADE TO FIT ANY MILL FRAME.



Fastest Grinders known.—Cheap.—Durable.

**STURTEVANT MILL CO.** Boston, Mass.



THE ACKNOWLEDGED

## PERFECT PULVERIZER

Of All Refractory Substances

Is the "Griffin Mill," whose first cost, wear, and operating expense is much less than stamp mills, and which yields a larger product at less cost than any other mill, with perfect success in every instance.

It will work by either the wet or dry process, and deliver a uniformly sized finished product of from 30 to 350 Mesh, with equal facility. Its capacity is 3 to 4 tons per hour on Phosphate Rock, 1 1/2 to 2 tons per hour on Portland Cement, Quartz Ores, etc.

Correspondence solicited, and illustrated descriptive catalogue sent free by mail on application to

**Bradley Pulverizer Co.,** No. 92 State Street, Boston.

THE ORIGINAL

## Bogardus Patent Universal Eccentric Mill

WILL GRIND ANYTHING DRY OR LIQUID; HARD OR SOFT,



Such as drugs of all kinds, salts, sugar, spices, crackers, broken cake, bread, cocoa, coconuts, fruits, mustard, coffee, licorice, soap powder, flavorings, berries, ink, blacking, paints in oils, &c. Especially adapted to grinding

Fertilizers, Bones, Tobacco, Stems, Clay, Paint, Etc.

Has a world-wide reputation of being the

**BEST MILL IN THE WORLD.**

Address the manufacturers,

**J. S. & C. F. SIMPSON,**

26-36 Rodney Street, - - - - - BROOKLYN, N. Y.

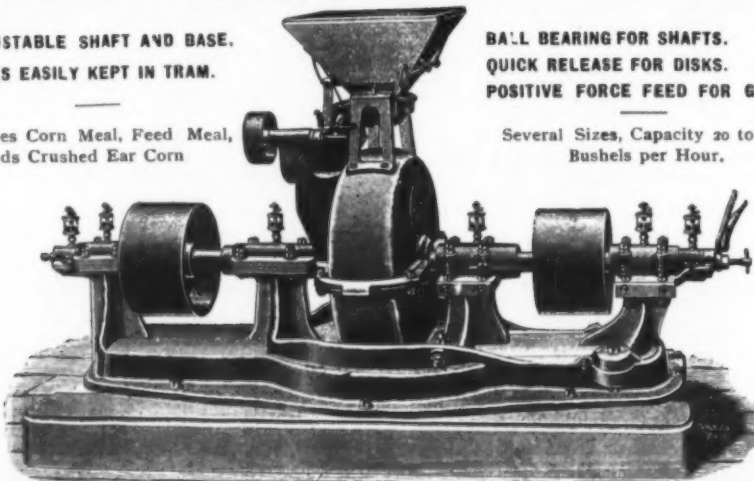
Catalogues sent on application. Used by all large drug houses.

## The Scientific Attrition Mill

AN IMPROVED MACHINE IN THIS LINE—A RAPID WORKER.

ADJUSTABLE SHAFT AND BASE.  
DISKS EASILY KEPT IN TRAM.

Makes Corn Meal, Feed Meal,  
Grinds Crushed Ear Corn



BALL BEARING FOR SHAFTS.  
QUICK RELEASE FOR DISKS.  
POSITIVE FORCE FEED FOR GRAIN.

Several Sizes, Capacity 20 to 100  
Bushels per Hour.

We Make CRUSHERS and GRINDERS of all kinds. Write us about any special work you may wish to do.

**THE FOOS MFG. CO.** SPRINGFIELD, O.



## PERFORATED SHEET METALS

FOR SCREENING  
Coal, Coke, Ore and Rock.



**THE HENDRICK MFG. CO., LTD.**  
CARBONDALE, PA.

## PERFORATED SHEET METALS

For All Manufacturing Purposes.

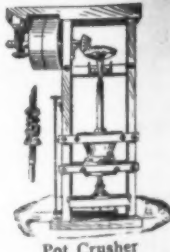
**MUNDT & SONS,**  
88 and 90 Walker Street,  
NEW YORK.

## WALKER & ELLIOTT, Fertilizer Mill Machinery.

Complete Plants Furnished and Erected.

**WILMINGTON, DEL.**

Crushing and Grinding Machinery.



Pot Crusher

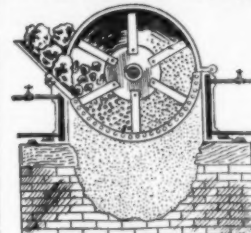
## Davids' Patent

## Disintegrating Mill

Send for Catalogue.

**JAMES MURRAY & SON.** 102 to 108 York Street, BALTIMORE, MD.

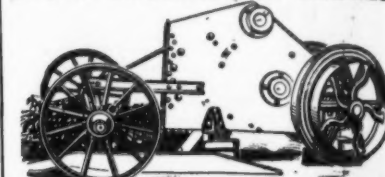
## WILLIAM'S BONE CRUSHER



PHOSPHATE,  
CLAYS,  
COTTON  
SEED  
OIL CAKE,  
and all kinds  
of mineral.

**M. F. WILLIAMS & CO.**  
ST. LOUIS, MO.

## STONE CRUSHERS and ENGINES.



The "Williams" Patent Steel Stone Crusher built portable for Township, Village or Contractors, or for Quarry use. Also Portable Engines Screens and Elevators, Grain Threshers and Horse-powers. Address

**ST. JOHNSVILLE AGRICULTURAL WORKS,**  
ST. JOHNSVILLE, N. Y.



THE McCULLY ROCK AND ORE CRUSHER. Greater than the Greatest on Earth. Guaranteed to do more work with one-half less power than any other Crusher now known. Received two awards at the World's Columbian Exposition at Chicago, Medal and Diploma. The only awards given for this type of Crusher. Send for catalogue, etc. **R. McCULLY,** 1824 Callowhill St., Philadelphia.

**McLANAHAN & STONE,**  
Engineers & Manufacturers,  
Gayport Foundry, Hellidsburg, Pa.

**IMPROVED WASHERS**  
For Phosphate, Iron, Manganese and other Ores.

**ORE JIGS,**  
Revolving Screens, Elevators and Conveyors.

Elevator for Coarse Material.



**STUFF MILL MACHINERY A SPECIALTY.**

Grinders' Packers, etc. Locomotive Repairs solicited. All classes of light and heavy Gray Iron Castings and Machine Work. Experimental work done for Inventors. **ADAMS & PRICE L. & M. WORKS, 2000 Line Street, NASHVILLE, TENN.**

**PHOSPHATE MACHINERY and SUPPLIES.****Engines, Boilers, Saw Mills.**

Shafting, Hangers, Wood Split Pulleys, Steam Pumps, Centrifugal Pumps, Steel Rails, Spikes and Fastenings, a Full Line of Railroad Supplies, and a Full Line of Bar Iron, Iron Pipe Valves, Fittings, Rubber and Leather Belts.

Agents for CUMMER'S DRYER. Write for our large Illustrated Catalogue. **The Cameron & Barkley Co., Charleston, S. C.**

**THE BAILEY-LEBBY CO. Fertilizer and Phosphate Machinery**

A SPECIALTY.

Complete Steam and Automatic Sprinkler Plants For Cotton Mills.

Engleberg Rice Huller, the only machine for cleaning rough rice in one operation. Railroad and Mill Supplies, Engines, Boilers, Saw, Corn and Case Mills, Rubber and Leather Belting, Hose, Packings, Pipe Fittings and Brass Goods. Largest stock of supplies South. Lowest Prices. Prompt shipments. Plans, specifications and large illustrated catalogue furnished upon application. Try the B.-L. Co. Anti-Friction Babbitt Metal, the BEST for high-speed machinery. **CHARLESTON, S. C.**

**ROCK AND ORE CRUSHERS, CANE MILLS,****HEAVY CASTINGS AND FORGINGS.****CLARK FOUNDRY & MACHINE COMPANY**

Founders and Machinists.

**KNOXVILLE, TENN.**

This cut shows our

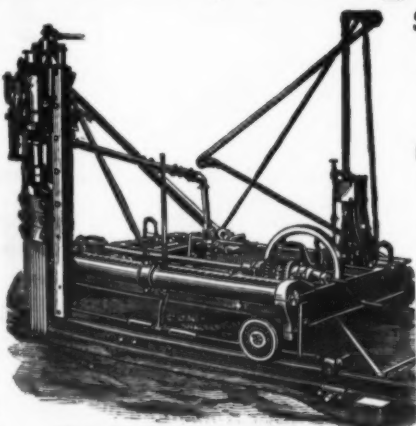
**Road Crusher**

Size of opening 8x14, ready for work.

It can be used with or without truck.

Send for price and full particulars.

**UNION FOUNDRY & MACHINE WORKS,**  
ROCKAWAY, MORRIS COUNTY, N. J.

**Sullivan Quarrying Machinery**

SULLIVAN STEEL GANG CHANNELER.

Sullivan Channelers and Gadders,  
Rock Drills and Quarrying Machinery,  
Sullivan Prospecting Core Drills,  
Stanley Entry Driving Machine,  
Mitchell Automatic Coal Tipple,  
General Mining Machinery.

STEEL GANG CHANNELERS,  
DIAMOND-POINTED CHANNELERS,  
STEEL DRILL GADDERS,  
DIAMOND-POINTED GADDERS,  
Rock Drills, Gang Saws, Hoists  
Derrioks, Steam Pumps, Engines,  
Boilers and General Quarrying  
Machinery.  
CORE DRILLS FOR QUARRY PROSPECTING.

Our Improved Sullivan Channeler is the best on the market, and is the standard in the principal marble quarries of Vermont, New York, Georgia, Tennessee and elsewhere.

Our Special Channelers for sandstone and magnesian and oolitic limestone are widely distributed and well known.

The Sullivan Channeler has high capacity, and is economical in fuel, labor and repairs.

The New Sullivan Gadder has many points of advantage in capacity, convenience and economy.



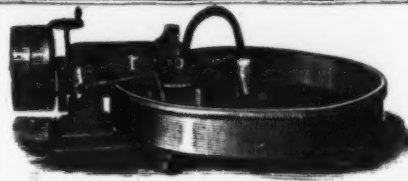
CORE DRILLS—HAND POWER

**SULLIVAN MACHINERY CO.**

SUCCESSORS TO DIAMOND PROSPECTING CO.

MANUFACTURERS AND DEALERS,

54 to 60 North Clinton Street,

**CHICAGO, ILLINOIS.****Dempwolf MIXING MACHINE**

FOR FERTILIZER MIXING,  
Acidulating and other purposes where first-class mixing is required.

Capacity from 20 to 350 tons per day.

**C. H. DEMPWOLF & CO. York Pa.**

M. C. LARRABEE.

JNO. C. MURPHY

**CAROLINE IRON WORKS,**

Corner Caroline and Lancaster Streets,

**BALTIMORE, MD.****PLASTER BREAKERS**

Write for Prices.

**SMELTING POTS**

For Shot and Sheet Lead Works.

WHEN IN NEED OF

**LEAD PIPE OR SHEET LEAD FOR SULPHURIC ACID CHAMBERS**Send your orders to **The JAMES ROBERTSON MANUFACTURING CO., Baltimore, Md.**

R. S. DODSON, Proprietor.

R. A. DODSON, Manager.

**New Atlantic Hotel**

Rates, \$2.50 to \$4.00.

**NORFOLK, VA.****HOTEL ARAGON****ATLANTA, GA.****AMERICAN AND EUROPEAN PLAN.****THE PALACE HOTEL OF THE SOUTH.**

Perfect Cuisine and Service.

The Only First-Class Cafe and Restaurant in the South.

**THE LINK**  
"WITH WHICH THIS PAPER IS PRINTED."  
QUEEN CITY PRINTING INK CO.  
CINCINNATI, O.



# Westinghouse Electric and Manufacturing Co.

PITTSBURGH, PA.

MANUFACTURERS OF STANDARD SYSTEMS FOR ELECTRIC LIGHT AND POWER DISTRIBUTION  
IN CITIES, FACTORIES, MILLS AND MINES.

## The TESLA Polyphase Alternating SYSTEM of ELECTRICAL TRANSMISSION

by which POWER, INCANDESCENT and ARC LIGHTING may be Supplied from the SAME CIRCUIT.

## THE WESTINGHOUSE ELECTRIC RAILWAY SYSTEM

which is the MOST DURABLE, ECONOMICAL and EFFICIENT on the Market.

NEW YORK, 120 Broadway.  
BOSTON, Exchange Building.  
CHICAGO, New York Life Building.  
TACOMA, WASH., 102 S. 10th Street.

PITTSBURGH, Westinghouse Building.  
BUFFALO, Erie County Bank Building.  
PHILADELPHIA, Girard Building.  
ST. LOUIS, American Central Building.  
For Canada address Ahearn & Soper, Ottawa, Canada

CHARLOTTE, N. C., 36-38 College St.  
SYRACUSE, N. Y., Bastable Building.  
SAN FRANCISCO, Mills Building.  
WASHINGTON, D. C., 1333 F. St. N.

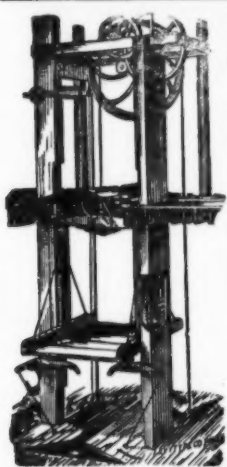
## GRAVES ELEVATORS

PASSENGER AND FREIGHT, Safety, Speed and Economy  
... Combined ...

New York, 92 & 94 Liberty St.  
Boston, 53 State St.  
Atlanta, Ga., Inman Building.

Send for  
Catalogue.

GRAVES ELEVATOR CO.  
ROCHESTER, N. Y.



Morse Elevator Works.  
MORSE, WILLIAMS & CO.

ELECTRIC, HYDRAULIC,  
BELT AND HAND-POWER,  
PASSENGER AND FREIGHT

## ELEVATORS.

WORKS—Frankford Avenue, Wilkey and Shackamaxon Streets,  
PHILADELPHIA.

OFFICES—  
1105 Frankford Avenue, Philadelphia.  
108 Liberty Street, New York.  
19 Pearl Street, Boston.  
Builders' Exchange, Baltimore.

## THE DORNER & DUTTON MFG. CO.

Cleveland, Ohio.

MANUFACTURERS OF

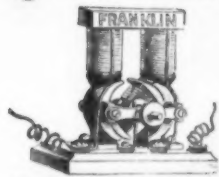
## CAR WHEELS AND AXLES

GEARS AND PINIONS,

Electric Motor Trucks.

Southern Representatives, Hoyle & Abbott, Atlanta Ga.

## \$1-FRANKLIN MOTOR-\$1

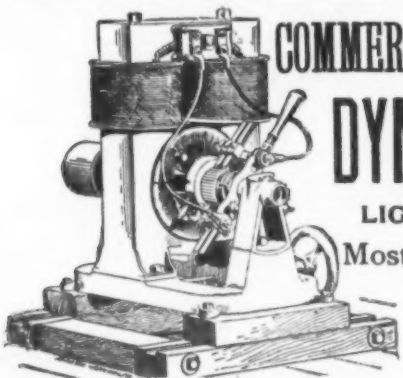


Largest and strongest \$1 Motor made. Sent prepaid to any part of the  
United States or Canada for \$1.25. Run by any battery. Our Battery,  
price 25 cents.

BATTERY MOTORS OF ALL SIZES.

See circular of our No 5 fan motor outfit. Experimental and demon-  
strating apparatus and supplies of every description. Send stamp for  
Circular.

FRANKLIN ELECTRIC & MFG CO., Miamisburg, O.  
Liberal Discounts to Dealers.



COMMERCIAL ELECTRIC CO.

## DYNAMOS - MOTORS

LIGHTING and POWER PLANTS.

Most Modern and Most Economical  
Apparatus Made.

111 S. Capitol Ave.,  
INDIANAPOLIS, INDIANA.

TRADE MARK:

## "Chloride Accumulator"

REGISTERED SEPTEMBER 11, 1904.

### A Few Examples of Storage Battery Applications.

No. II.

FOR TROLLEY REGULATION.—The Elec-  
tric Light & Railway Co., of Merrill, Wis., is sup-  
plying power for lighting and for operating trolley  
cars from one system of shafting driven by water  
power. The battery of Chloride Accumulators, con-  
nected across the railway circuit, is charged during  
periods of light load and assists the railway generator  
on the peaks of the load; it increases the lighting  
capacity of the plant and gives an absolutely steady  
voltage at the lamps. Before the installation of the  
battery the lamp voltage varied up to 9 volts on each  
side of the three-wire system. On an occasion when  
there was trouble with the generating plant, the bat-  
tery furnished current to operate the railway for a  
period of 24 hours without assistance.

## The ELECTRIC STORAGE BATTERY CO.

PHILADELPHIA, PA.

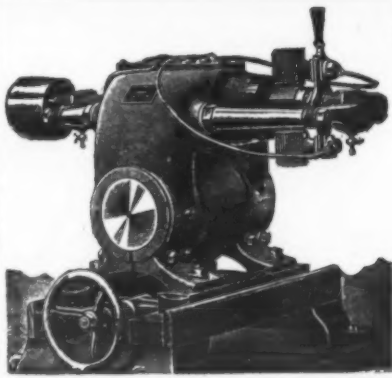
BRANCH OFFICES:

NEW YORK, 66 Broadway. SAN FRANCISCO, 222 Market St.  
BOSTON, 93 State St. CHICAGO, 309 Dearborn St.  
BALTIMORE, 215 N. Calvert St.



SOLE MANUFACTURERS OF FRED G. WEIR'S  
IMPROVED RIGID & SPRING FROGS, CROSSINGS  
SINGLE & THREE THROW SPLIT SWITCHES,  
FIXED & AUTOMATIC SWITCH STANDS, STEEL  
DIE FORMED RAIL BRACES, SWITCH FIXTURES, ETC.

CABLE & ELECTRIC  
TRACK WORK  
FROGS, SWITCHES,  
CROSSINGS, ETC.  
RAIL CHAINS,  
ETC.



## The Jenney

Direct Connected and  
Multipolar DYNAMOS  
for Lighting and  
Power Distribution and  
STREET RAILWAY CIRCUITS

Jenney Electric Motor Co.  
INDIANAPOLIS



0.  
ON  
SION  
CM  
St. H.

BLE  
& FLE  
ACK WO  
GS. SWITC  
SINGS. CO  
AIL CHAI  
ETC.

ey  
and  
MOS

on and  
CIRCUIT

otor Co.  
ANAPOLIS



Electr

EXCELL

W  
Alte  
Ligh  
Mot

Our App  
the

Fort W

New York City—11  
Chicago—421-435 M  
Philadelphia—407  
Boston, Mass.—17  
New York, N. Y.—  
Columbus, O.—419  
Grand Street  
San Francisco—11  
Harrisburg, Pa.—400

The Tr

T

See that An  
PERFE  
VENTIL  
NOTHING L

NEW YORK  
ATLANTA

Write for  
Circular A.



# "WOOD"

## Electric Lighting Power Apparatus.

UNEXCELLED IN EFFICIENCY.

We manufacture only the highest class of Arc, Alternating and Direct Current Incandescent Electric Lighting APPARATUS, Lamps, Transformers and Motors.

Our Apparatus is used in the Illumination of the Large Cities of this Country.

Fort Wayne Electric Corporation,  
FORT WAYNE, INDIANA.

### BRANCH OFFICES:

|                                       |                                                    |
|---------------------------------------|----------------------------------------------------|
| New York City—115 Broadway.           | New Orleans, La.—Raymond, Stearnes & Gray, Agents. |
| Chicago—421-423 Marquette Building.   | Omaha, Neb.—1501 Farnam Street.                    |
| Philadelphia—207 Filbert Street.      | St. Paul, Minn.—115 Germania Life Bldg.            |
| San Francisco—17 Federal Street.      | Cincinnati, Ohio—408 Neave Building.               |
| Boston, Mass.—11 Federal Street.      | San Antonio, Texas—297 Laseya Street.              |
| London, O.—410 Wyandotte Building, W. | Atlanta, Ga.—35 Marietta Street.                   |
| Indianapolis—18 Second Street.        | St. Louis, Mo.—221 Security Building.              |
| Pittsburgh, Pa.—405 Times Building.   |                                                    |

The Triumph Electric Co.

Manufacturers

# THE TRIUMPH

See that Armature?  
PERFECT  
VENTILATION.  
NOTHING LIKE IT.



Large Bearings,  
Automatic Lubrication,  
Copious Supply.  
Artistic Design.

NEW YORK.  
ATLANTA.

CHICAGO. WASHINGTON.  
PITTSBURGH. NASHVILLE.

OFFICE AND FACTORY:

859-869 Hathaway Street,

CINCINNATI, OHIO.

Write for  
Circular A.

## TELEPHONES

Long and  
Short Distance.

Our Improved Telephone  
Guaranteed Superior  
In Every Way.  
Send for catalogue.

THE UNION ELECTRIC CO.  
17 High Street,  
CLEVELAND, OHIO.



GENUINE  
"HUNNINGS"  
TELEPHONES  
Switchboards  
30,000 IN USE.  
FINE MATERIAL  
of every description  
at proper prices.  
Can refer to our ex-  
changes.  
Write to Catalogue.  
American  
"Hunnings"  
Telephone Co.

RAYMOND, STEARNES & GRAY,  
SOLE AGENTS,  
404 Carondelet St., NEW ORLEANS, LA.

## TRIBUNE BICYCLES.

THE BEST IN THE WORLD.



The BLACK MFG. CO., Erie, Pa.  
WM. H. COLE & SONS, Baltimore, Md.  
Send for Catalogue. Southern Agents

## THE ORATOR AND IMPROVED HUNNINGS



solid back dust trans-  
mitters in Wall, Desk  
and Cabinet Styles.

They are Conven-  
ient, Durable,  
and the best  
talkers.

A trial will convince  
any one of their super-  
iority on either short  
or long distance work.  
Any one can make an  
instrument that will  
work well at first, but  
to produce one that  
will continue to  
meet every proper de-  
mand is quite another  
problem.

The Orator with

THE ORATOR

Manufactured by

THE RAWSON ELECTRIC CO.

Elyria, Ohio, U. S. A.

## TELEPHONES!

Electric, Cheap, New-Inchlighting, Good, Perfect.

ELECTRICAL SUPPLY & TELEPHONE CO.  
1430 Chestnut St., PHILADELPHIA, PA.

SHAWHAN-THRESHER ELECTRIC CO.  
Electrical Engineers and Builders of Electrical  
Machinery. Dayton, Ohio, U. S. A.

HOUSE GOODS  
ELECTRICAL SUPPLIES  
OF ALL KINDS  
WRITE FOR CATALOGUE  
PATRICK & CARTER  
125 S 2<sup>nd</sup> ST. PHILADELPHIA  
Henderson Manufacturing Co.

## SMETHURST & ALLEN,

W. A. SMETHURST.  
RODNEY D. ALLEN.

THE REYE BUILDING,  
PHILA., PA.

Electric Railway Contractors

Long Distance Telephone app.

Complete Electric Light and Power Installations. Electric Railway Work a Specialty.

## WESTERN ELECTRICAL SUPPLY CO.

10 & 12 N. Ninth Street, ST. LOUIS, MO.

ELECTRICAL MACHINERY AND SUPPLIES.

Complete Electric Light and Power Installation.  
Write for Catalogue.

## General Electric Co.

SALES OFFICES IN ALL PRINCIPAL CITIES

Electrical  
Apparatus

For Electric Lighting, Arc and Incandescent,  
Electrical Street Railways.

ELECTRICAL MOTORS  
For Shops and Factories.

ELECTRICAL

TRANSMISSION OF POWER.

MAIN OFFICES:  
SCHENECTADY, N. Y.  
14 Broad Street, NEW YORK CITY.  
Coulter Building, ATLANTA, GA.  
423 to 429 Barrone St., NEW ORLEANS, LA.

## CARD DYNAMOS and MOTORS

For Lighting and Power Purposes.

GENERATORS For Power Transmission.

All CARD apparatus is strictly high grade, modern,  
Multipolar Type and Slow Speed.  
Cotton Mills, Rolling Mills and Factories equipped.

WRITE FOR ESTIMATES.

THE CARD ELECTRIC COMPANY.

OFFICE AND WORKS,  
MANSFIELD, OHIO.





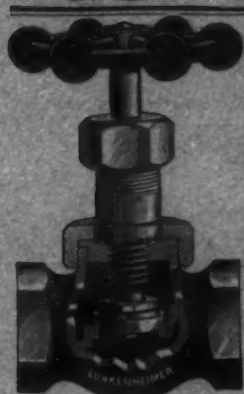
30,000,000  
100,000  
World  
Renowned

Gallons of water are forced into steam boilers every hour in the day by the  
**PENBERTHY**  
Automatic  
INJECTORS  
now in use in the United States alone.  
**PENBERTHY INJECTOR CO.**, 127 Seventh Street, DETROIT, MICH.  
Largest Injector manufacturers in the world.



### When You Are Offered

**JENKINS' or JENKINS BROS. DISCS**  
that have Trade-Mark same as cut, they are all right for high pressure steam. All others are imitations and you cannot hold us responsible. If you cannot get our discs from your dealer, send to us for them.  
JENKINS BROS., 71 John St. N. Y., 31 N. Canal St., Chicago, 117 N. 4th St. Phila., 105 Milk St. Boston.



### LUNKENHEIMER'S REGRINDING VALVES.

IN CONSTANT USE on Government work, U. S. Cruisers, Lake and River Boats, Locomotives; in Power Plants, Rolling Mills, Refineries, Factories, etc.

THEIR SUPERIOR MERIT and intrinsic value can only be appreciated by actual use.

ONCE USED—always used. Our catalogue gratis—Have you one?

**THE LUNKENHEIMER COMPANY,**

New York Store: Factories, CINCINNATI, O.  
51 John St. European Store: The Lunkem & Co., 85 St. Dover St., London, E. E.

**HAINES, JONES & CADBURY CO.**

PHILADELPHIA, PA.

MANUFACTURERS

HIGH CLASS PLUMBING GOODS.

## DIXON'S GRAPHITE PAINT

FOR TIN OR SHINGLE ROOFS AND IRON WORK. Tin roofs well painted have not required repainting for 20 to 25 years.  
IT IS ABSOLUTELY WITHOUT AN EQUAL.

If you need any paint it will pay you to send for circular.

**JOSEPH DIXON CRUCIBLE CO.**, Jersey City, N. J.

## ASPHALT SEAMLESS ROOFING.

The maximum results with a minimum expense, with complete adaptability for the highest economic requirements. Manufactured by

**CONSOLIDATED ROOFING WORKS**, Columbus, Ohio.

W. B. BELKNAP & CO., Louisville, Ky., Sole Agents.

KRACK & SNACKLEFORD, New Orleans, La.

**H. STEVENS'S SONS CO.**, Macon, Ga.

Manufacturers of

**Sewer and R. R. Culvert Pipe,**

Fire Brick, Milled Clay Fine Pipe and Chimney Tops,  
Urns, &c. Correspondence solicited.  
Awarded Gold Metal Cotton States and International Exposition, 1895.

## SUPERIOR BOX NAILER



Built in the Most Substantial Manner.

SIMPLE AND DURABLE

CAN BE USED FOR

**FRAMING, BOTTOMING,**

Or Any Other Kind of Work.

NO WEIGHT OR SPRING TO TREADLE TO  
TIRE THE OPERATOR.

Cigar and other Small Boxes. Bottoms Can be Nailed  
On in Two Revolutions.

**WILLIAM S. DOIG**, Sole Maker, Brooklyn, N. Y.

Medal and Diploma Awarded World's Chicago Columbian  
Exposition, 1893.



## Sing To Me Again

The story of the Barrow,  
The strong little Barrow,  
Best that is made.

Let us "sing" to you.

**THE KILBOURNE & JACOBS MFG. CO.**

COLUMBUS, OHIO, U. S. A.

**SELLERS' RESTARTING INJECTOR**  
For Stationary, Portable, Traction Engines, Tugboats, &c.  
Thoroughly Reliable—Perfectly Automatic.  
**JENKINS BROS.**—Selling Agents,  
NEW YORK, BOSTON, PHILA., CHICAGO.

**Buffalo FAN SYSTEM**  
HEATING & VENTILATING  
LARGE BUILDINGS.

**HELMET OIL**  
THE  
BEST LUBRICANT KNOWN  
**C. H. BESLY & CO.**

**Wanted—An Idea**  
Who can use of some of the ideas in this list? Write JOHN WEDDERBURN & CO., Patent Agents, Washington, D. C., for their \$1.00 price and list of two hundred inventions wanted.

**GLIDDEN'S METAL POLISHES** Made by GLIDDEN SPECIALTY SUPPLY CO. CLEVELAND, OHIO.  
Especially adapted for STATIONARY ENGINES and LOCOMOTIVES.

MAIN OFFICE, CINCINNATI, OHIO.

CHICAGO.

LARIMER, PA.

## The S. Obermayer Co.

Manufacturers of

Foundry Facings, . . Foundry Supplies, . . Foundry Equipments.

IMPORTERS AND REFINERS OF

PLUMBAGO AND INDIA SILVER LEAD FOR ALL PURPOSES.

## Black Diamond File Works.

Established 1861.

Incorporated 1893.

Twelve  
Medals

Awarded at  
International  
Expositions.



Special  
Prize  
Gold  
Medal

Atlanta 1895

Our goods are on sale in every leading Hardware Store  
in the United States and Canada.

**G. & H. BARNETT CO.**, Philadelphia, Pa.

## "WEST VIRGINIA BRIDGE WORKS"

(Operated by the Vulcan Road Machine Co.)



Builders of all kinds BRIDGES and STRUCTURAL IRON WORK.  
CHARLES TOWN, W. VA.

THE STANDARD TOOL CO., Cleveland, Ohio, Manufacturers

## Twist Drills

REAMERS, TAPS, MILLING CUTTERS, AND  
CUTTERS and FLAT SPRING KEYS.